OCTOBER 15, 1958

TELEPHONE ENGINEER & MANAGEMENT

the telephone industry magazine

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DETROIT
vol 62 #20

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61st Annual Convention
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COVER PHOTO
USITA Pres.
HUGH BARNHART,
Rochester, Ind.

Featuring Telephone Engineer & Management's "SPECIAL EMPHASIS NEWS SECTION"

★ Washington Observations, page 107 ★ Courts & Commissions, page 111
★ "Financially Speaking," page 119

1 out of 13

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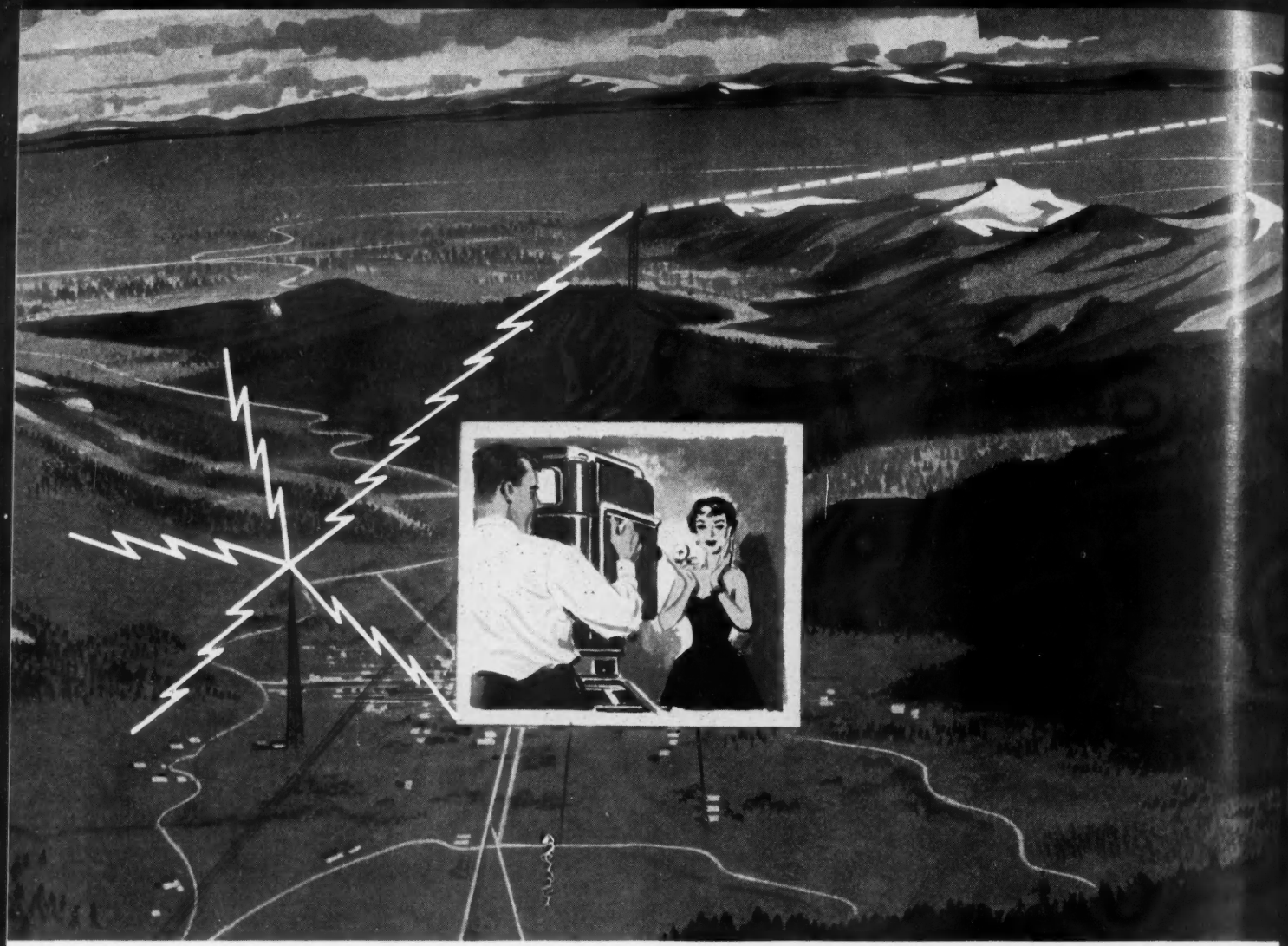

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Provides Maximum System Reliability

PHILCO TLR-6 microwave provides economical transmission of NTSC compatible color or monochrome TV signals . . . plus full audio channel. Here is a completely modern microwave system . . . especially designed to meet the needs of community TV operators for thoroughly dependable operation.

TLR-6 delivers 1 full watt output. Heavy duty power supply insures outstanding operational reliability in continuous unattended service.

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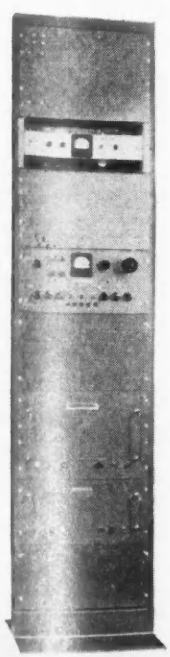
Here is reliability of performance unaffected by severe weather, free from the many limitations of wire and pole lines, unhampered by problems of difficult terrain, over-water transmission or expensive rights-of-way.

Philco engineers will be happy to help you with your special Microwave requirements. Please contact us for further information. Write today for TLR-6 Specification Sheet.

for Unattended TV Relaying!



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*Licensed to manufacture under existing patents.

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Spiraflex **HANDSET CORDS** in bright colors with non-staining thermoplastic jackets in solid color extrusions matching color shade and sheen of telephone sets. Also non-staining black Neoprene jacketed cords. Both types available with or without integral moldings and terminations. Furnished in standard or extra long lengths.

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the telephone industry magazine

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FRONT COVER

Members of the Independent telephone industry held their 61st annual convention at Chicago's Conrad Hilton Hotel, October 12-15 and elected HUGH A. BARNHART, a veteran Independent and president of the Rochester (Ind.) Tel. Corp., president of the U. S. Independent Telephone Association. (For complete story see USITA Convention Report Section, starting on page 57.)

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General offers you the best telephone cable in its history! You get improved grades of paper and plastic insulation. You also get lower measured capacitances and higher dielectric strengths. You'll find more built-in quality in General Cable than in any other.

2 MORE MILL CAPACITY

General Cable now has five mills making *telephone* cables in different parts of the country. These mills are needed to meet the ever increasing demands of the Independent telephone industry.

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when you buy General Cable from Automatic Electric!

3 BROADER PRODUCT LINE

General makes a cable for every communications need. Paper Lead, Jute Protected, Steel-Tape Armored, Stalpeth, Alpeth, Textile Insulated, Switchboard, Interior Wiring and Video Pair are all *standard* cables. And, now you can buy a telephone cable with an extruded aluminum sheath — manufactured by General — distributed by Automatic Electric. Just one more addition to the biggest selection in the industry.

4 FASTER DELIVERY

Some General Cable products are available from stock. Some are available for delivery in a maximum of 30 to 60 days. Your nearest Automatic Electric representative will do his best to get the cable you want—when you need it.

5 GREATER RESEARCH AND DEVELOPMENT FACILITIES

From General Cable's constant research come such *firsts* among independent manufacturers as Stalpeth, Alpeth, Video Pairs, extruded aluminum sheath and molded color-coded plastic switchboard cable. General has manufactured *telephone cable* for 70 years! With this vast storehouse of experience General is able to bring you the latest in cable advances.

These General Cable extras are available today for less money than ever before. Not *least* money, but *less* money. The least expensive cables often do not include all these extras. You always get the *important extras* when you buy General Cable from Automatic Electric. Send your order to your nearest A. E. representative today!

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ALCOA ALUMINUM OUTDOOR TELEPHONE BOOTHS ARE NOW AVAILABLE IN TANDEM ASSEMBLY

Space savings, easier maintenance, neater appearance increase revenue

Now, for the first time, you can get Alcoa® Aluminum Outdoor Telephone Booths in two- and three-booth tandem assemblies.

Made by Alcoa, the new standard tandem assemblies have the same high-revenue, low-upkeep features as single aluminum booths—plus three big advantages:

More Compact—Tandem booths eliminate the gap created when two or more single booths are placed together. Less space is required for booths in congested areas such as shopping centers, sidewalks and gas stations.

Easier Cleaning—Alcoa tandem assemblies fit flush, so cleaning the outside surfaces becomes simply a matter of wiping with a damp cloth.

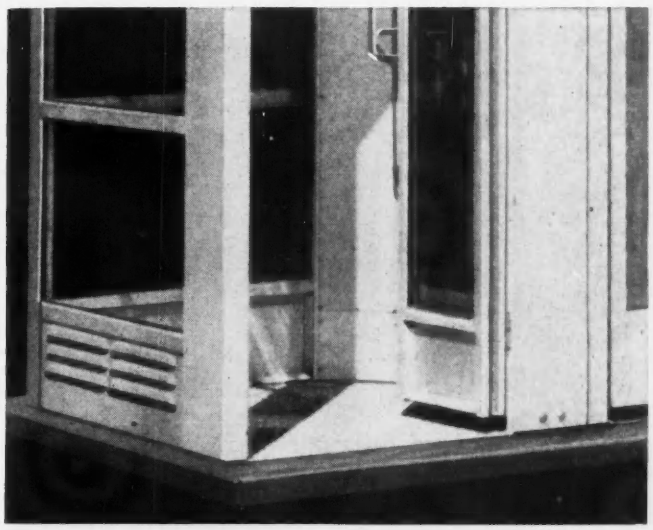
Tailored Appearance—Alcoa tandem booths fit nicely into their surroundings, look as though they had been "custom-made" for the location.

Alcoa tandem booths have a common roof and adjustable angle brackets at the bottom. Attractive, sound-deadening, porcelain-enameled panels are used in place of clear glass in the adjoining sides. Otherwise, the design is the same as for regular Alcoa Aluminum Outdoor Booths—except that they are made to *double* your revenue.

All Alcoa Outdoor Telephone Booths have REA and CSA acceptance and Underwriters' Laboratories approval. For more information on single or tandem design, contact the nearest office of any of these Jobbers:

Automatic Electric Sales Corp.
Automatic Electric Sales, Ltd.
Graybar Electric Co., Inc.
Kellogg Switchboard & Supply Co.
Leich Sales Corp.
Stromberg-Carlson Co.
Union Electric Co.

Aluminum Company of America, 1691-K Alcoa Building, Pittsburgh 19, Pa.



Alcoa's tandem assemblies are smart, modern in appearance and fit flush to reduce cleaning problems. Single concrete slabs for foundations lower construction costs.

Solid, compact construction of Alcoa tandem booths is assured by common roof joining two regular Alcoa Outdoor Booths.

ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA

Your Guide to the Best in Aluminum Value

ALCOA THEATRE
Fine Entertainment
Alternate Monday Evenings

Outdoor Telephone Booths of Alcoa Aluminum Give You All These Features: Corrosion Resistance • Attractive Appearance • Low Maintenance • Simple Installation • Complete Safety • Vandal Resistance • Tandem Assemblies • Free Goodwill Kit

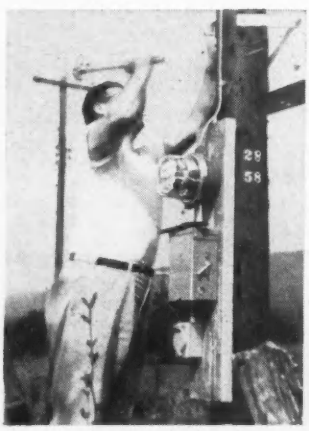
Good News from Kellogg

K-31 brings toll quality to rural carrier at low cost!

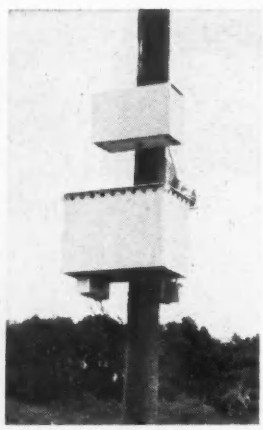
Transistorized! Up to 8 Separate Voice Channels!

Kellogg's new K-31 rural subscriber carrier system provides telephone companies with toll quality subscriber carrier at low cost. The system is completely transistorized, features printed circuits, miniaturized sub-assemblies and plug-in construction.

Standby power, consisting of two small batteries and a transistorized charger in a pole-mounted housing, is available. This is possible because power consumption is less than three watts even during talking.



All subscriber terminal equipment, including standby power supply, are pole-mounted, easy to install.



Weatherproof housings and sun shields are additional K-31 features.

K-31 has built-in compandors to assure quiet talking circuits and is automatically regulated to eliminate the effect of changing weather conditions over a wide range of carrier line losses.

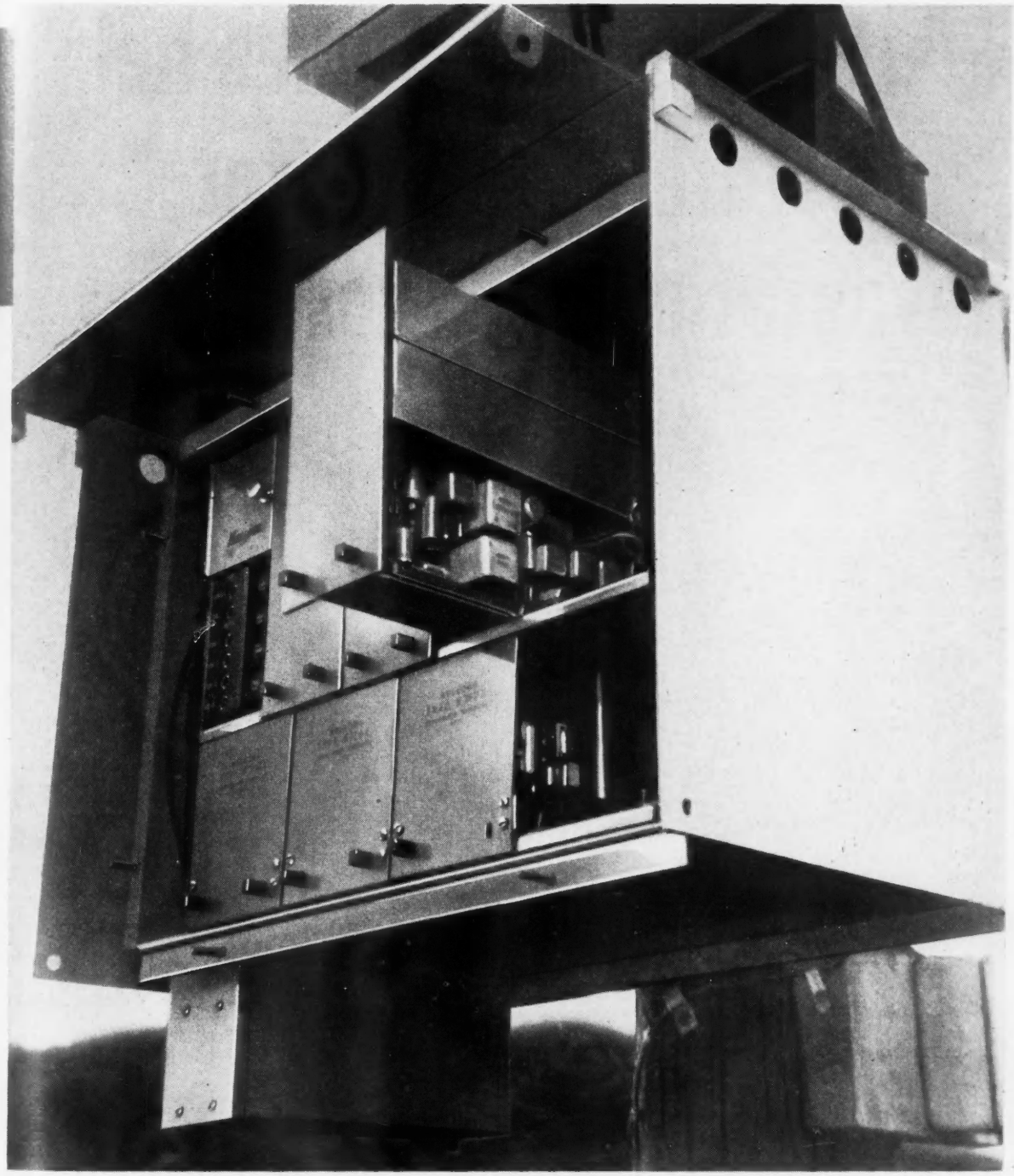
Line-up and test procedure is very simple —a single level control for each direction of transmission. Terminating telephone type jacks are provided for ease and speed in testing. Installation time is held to a minimum by the use of a unique pole-mounted housing with built-in protected terminal blocks for external connections.

These design features plus top quality components and workmanship make K-31 reliable and stable in its operation.

Ask your Kellogg sales representative for full details.

Kellogg Switchboard and Supply Company
6650 South Cicero Avenue, Chicago 38, Illinois
Communications Division of
International Telephone and Telegraph Corporation

KELLOGG
CHICAGO, ILLINOIS



Plug-in construction makes K-31 maintenance simple.

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EXPORT—165 Prospect Street, Passaic, New Jersey. PRescott 3-5100. TWX PAS 1067

Nearby Kellogg Supplies help restore service after devastating Iowa tornadoes

Thanks to close-at-hand supplies from Kellogg, La Porte, Iowa's telephone service was rapidly restored after heavy tornado damage in late spring. Close cooperation between M. W. Wagner, manager of La Porte's telephone company and the Kellogg regional warehouse in Kansas City, Kansas put 750 telephones back in service within ten days although miles of line were down throughout the area. True to the traditions of the telephone industry, more fortunate neighboring companies sent emergency service personnel into La Porte to help with restoration.

La Porte's disaster is typical of that faced each year by hundreds of independent companies throughout the country. In all cases, and at all times, the regional Kellogg warehouse stands ready to be of service, as with La Porte.

Completely stocked and equipped, you'll find your Kellogg warehouse the ideal place to fill your supply needs, regardless of how large or small your requirements may be.

Kellogg Switchboard and Supply Company, 6650 South Cicero Avenue, Chicago 38, Ill. Communications Division of International Telephone and Telegraph Corporation.

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CHICAGO, ILLINOIS
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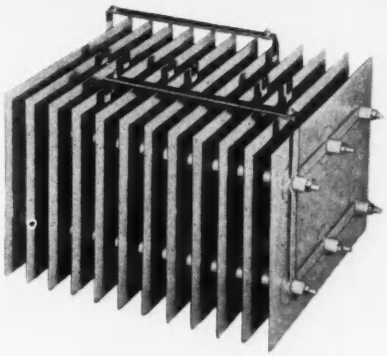
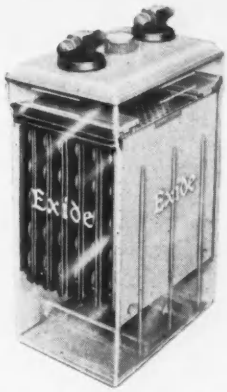
IT&T

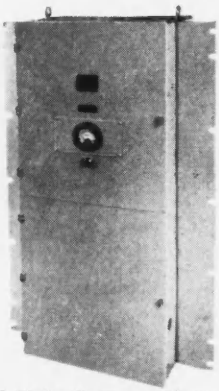
For perfect splices, Nicopress Sleeves fit perfectly into the jaws of the Nicopress 17-2 Tool to produce a full-contact splice every time. Nicopress Sleeves and Tool are easy to use, quick, dependable. Full range of sleeve sizes for every telephone conductor. Nicopress Sleeves and Tools are products of THE NATIONAL TELEPHONE SUPPLY COMPANY.



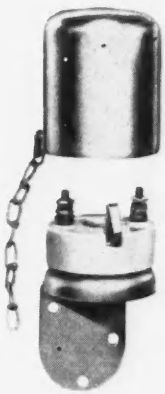
Lorain Dry CEMF Cells—Lorain's important new product for eliminating telephone office maintenance associated with liquid filled cells. Light in weight, portable, safe, completely flexible as to voltage and current ratings.
LORAIN PRODUCTS CORPORATION.



The Battery That Stays Young for Years. Built right into the Exide-Manchex Battery is a reserve supply of lead that converts automatically to active material as it's needed during the battery's long life. Hence, it keeps its full capacity for years. Exide Industrial Division, THE ELECTRIC STORAGE BATTERY COMPANY.



New 48-Volt Battery Charger Line. Completely redesigned Raytheon Recti-Chargers (R) feature no load to full load regulation of ±1%, no tubes, automatic compensation for rectifier aging, no audible hum. Most compact units on the market—single and three phase, output from 3 to 400 amperes. RAYTHEON MANUFACTURING COMPANY.



Developed for Better Insulation, the Cook Testerm Drop Wire Connector improves connecting and testing methods, occupies less space and provides terminating facilities for drop wire. Made by COOK ELECTRIC COMPANY.

The Time-Tested Steel Strand. A ductile, adherent zinc coating, applied by the famous Crapo Galvanizing Process, provides lasting protection against corrosion in INDIANA STEEL & WIRE COMPANY'S Crapo Steel Strand. Minimum maintenance expense.

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SYcamore 4-2441. TWX AT 351

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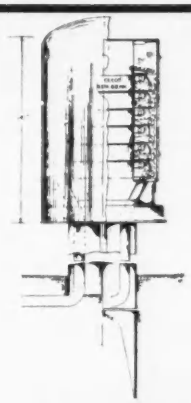
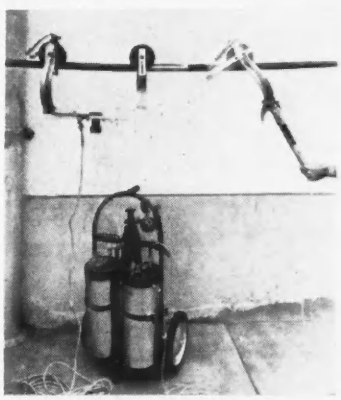


CEECO PARKWAY PEDESTAL TERMINAL—for loading direct earth burial plastic cable. Permits loading required pairs, adding to capacity, access to any or all pairs. All-steel construction, "bell jar" type cover. Side plates give nominal air gap protection. Terminals are 6, 8, 14 and 16 pairs high, affording loading of 12, 16, 28 and 32 pairs. COMMUNICATION EQUIPMENT AND ENGINEERING COMPANY.



Cable Leak Detector—Two models are illustrated. Model at left is for high cables. Nozzles spray cable, air pressure from tanks causes air bubbles clearly seen from ground. S & G MANUFACTURING CORPORATION.

Laboratory precision in the palm of your hand

ALECTRA *portable test instruments*

MODEL 10A, A-C ELECTRONIC VOLTMETER — 1 mv to 300 v full-scale; 5 cps to 500 kc.

MODEL 11A,DBM/DBA METER — Balanced input, 300 cps to 10 kc; accurate to ±1 db.

MODEL 20B,TEST OSCILLATOR — 15 cps to 150 kc; less than 1-ohm output impedance, 600-ohm balanced adapter available.

MODEL 41A,CARRIER FREQUENCY BALANCED ATTENUATOR — 0.2 db accuracy, d-c to 1 mc; 1-db steps to 82 db.

Graybar Distributed by *Graybar* ELECTRIC COMPANY

All the precision and reliability of a testing laboratory are packed in Alectra's complete line of transistorized instruments. These lightweight, portable units are specifically designed for the telephone industry . . . to accompany service personnel in the field . . . to go wherever maintenance problems exist.

Immediate delivery . . . now . . . on 10 different instruments, all the same size, with battery operation and transistor circuitry on printed wiring. Alectra instruments provide stable operation, require no warm-up time.

New 4-PAK rack holds four instruments and can be carried easily with one hand. Rubber feet and collapsible leather handles assure easy stacking.

Order directly from Graybar or contact your local CEC sales and service office. For more information, write today for Bulletin CEC 7000-X30.

MODEL 60A,AUXILIARY POWER SUPPLY
Developed to conserve battery life, this unit provides 12 v d-c (nominal) to power any combination of 1 to 4 Alectra instruments. Operates from 115 v, 60 cycle a-c.

EMPLOYMENT OPPORTUNITIES
with this progressive company. Write Director of Personnel.

CEC

ALECTRA *Division* **Consolidated Electrodynamics**
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OFFICES IN PRINCIPAL CITIES THROUGHOUT THE WORLD

For unlimited service...

COPPERWELD LINE WIRE

Copperweld* is the best engineered conductor for long-life, long-span construction. It's economical, strong, nonrusting, and easy to string. And Copperweld "talks better" than any other high-strength conductor.

For short subscriber loops and secondary toll lines use .080"-30. On toll lines and long subscriber loops install .104"-40.

COPPERWELD GRIP-FLEX TIES

Reinforce the conductor over the entire length of the tie, combat fatigue, and assure uniformity of construction. These preformed ties are strong, nonrusting, simple in design, easy and inexpensive to apply. Copperweld Grip-Flex Ties are made for line wire sizes from .080" to .165".

COPPERWELD STRAND

Economy and convenience are two big features of Type M Guy and Messenger Strand. Recent developments in research and production have enabled us to produce this new, low-cost strand that's permanently strong, nonrusting, and easy to handle.

Maintenance and replacement end when Copperweld Type M Strand is installed.

COPPERWELD INSIDE WIRE

When the job calls for the best, leading telephone companies use Copperweld Inside Wire. It has good conductivity, pliability, and high strength to withstand frequent flexing and long duct pulls—yet the cost is low.

Copperweld Inside Wire is available in 2, 3, or 4-wire twisted or jacketed construction.

COPPERWELD DROP WIRE

For uninterrupted service, string Copperweld — the strongest drop wire made. Its thick copper covering, Molten-Welded to an alloy steel core, assures excellent conductivity and long, stretch-proof life. No. 18 Copperweld Drop Wire, with a breaking strength of 400 pounds for the pair, has the ruggedness to withstand heavy ice and wind loads.

COPPERWELD GROUND RODS

For permanent grounds, dependable the year 'round, use Copperweld—the only ground rods with a thick copper covering inseparably Molten-Welded to a strong steel core. They provide stiffness for easy driving and rust resistance for long life. Copper-to-copper contacts throughout assure low resistance. For your protection, each rod is stamped "Copperweld."

*Trademark

Copperweld™

COPPERWELD STEEL COMPANY

WIRE AND CABLE DIVISION, GLASSPORT, PA.

For Export: COPPERWELD STEEL INTERNATIONAL COMPANY, New York

SOLD BY LEADING DISTRIBUTORS

NEW! EXTRA LONG RECEIVER Koiled Kords*

NOW IN COLOR

Extra long receiver KOILED KORDS in color enable you to offer another service to those subscribers who want to move more than four and a half feet from their instruments.

New, long KOILED KORDS retractile cords in color — and in black — are offered in two standard lengths, 18 inches retracted that extend to approximately 9 feet and 30 inches retracted that extend to 15 feet.

Extra long receiver KOILED KORDS are available in colors to match all telephones. See your telephone supply house for full information.

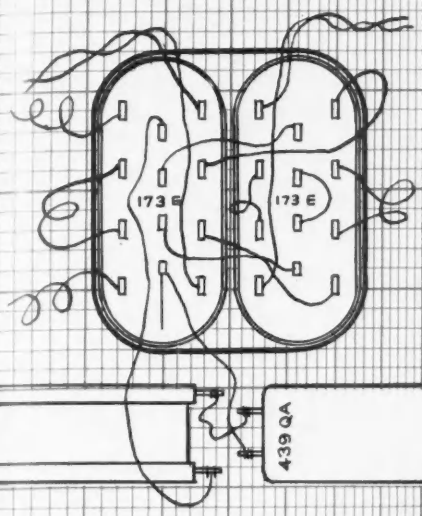
Koiled Kords INCORPORATED

BOX K, NEW HAVEN 14, CONNECTICUT

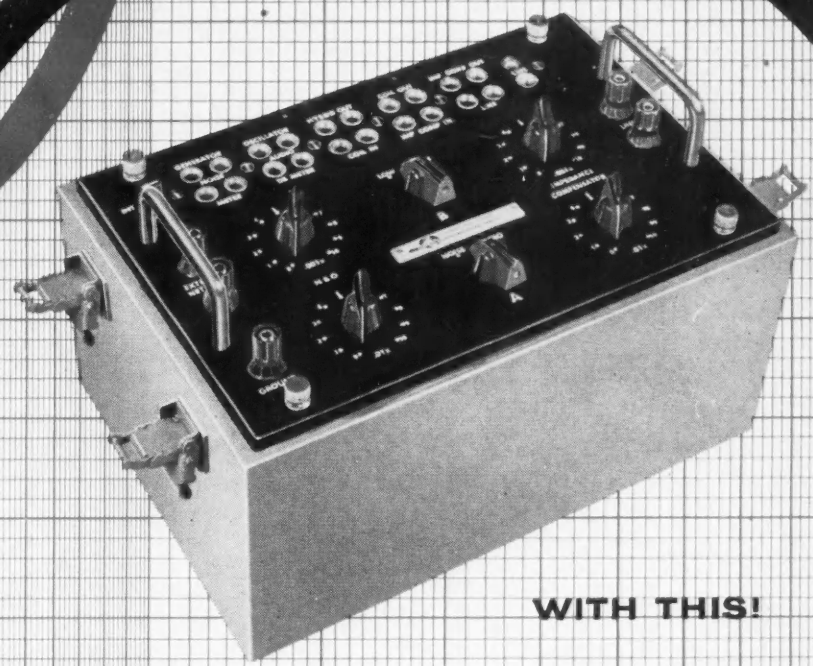
KOILED KORDS, the original retractile cords, are the result of 17 years of research, development and use.

* KOILED KORDS is a trade mark of KOILED KORDS, INC.

Acceptance tests are simpler, quicker with Airtronics PORTABLE Test Hybrid Set



NO MORE OF THIS



WITH THIS!

Portable but DURABLE

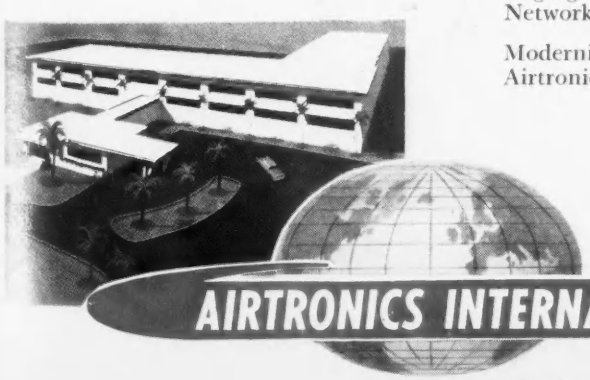
Airtronics Portable Test Hybrid Set is built to withstand the rough handling of normal testing operations. Rugged construction throughout, housed in heavy-gauge aluminum travel case with handy carrying handle.

How many times have you heard telephone men say, "Why can't we have a complete Test Hybrid, all in one case? No maze of tape and wire connections. No soldering and unsoldering. No strapping and unstrapping. No more broken connections that are so hard to find, so time-consuming to repair!"

The Airtronics Portable Test Hybrid Set eliminates these problems. Adjustments are made with simple switch or knob settings for all acceptance tests on toll and interoffice trunks.

The 600 ohm or 900 ohm hybrid structure has high internal balance, impedance matching coil, impedance compensator and capacity decades. The controls simplify trunk completion tests, return loss or singing point measurement, or impedance compensator adjustment. Network build-out values easily determined by test.

Modernize your entire hybrid testing procedure, with the new Airtronics Portable Test Hybrid Set. Write today for full details.

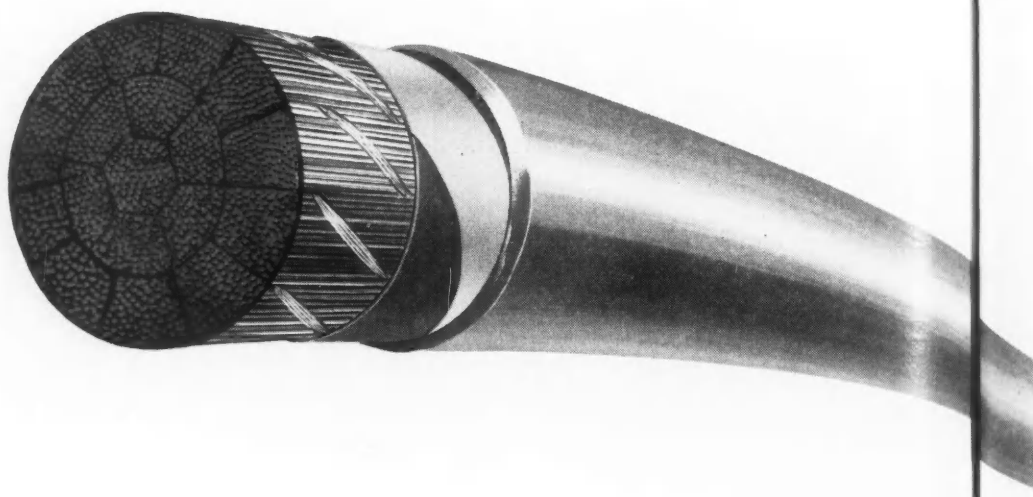


Another Airtronics Product for the Telephone Industry:
Packaged Program Equalizer embodying all possible arrangements for use on 5, 8 or 15 KC loaded channels.

A PRODUCT OF

AIRTRONICS INTERNATIONAL CORPORATION

P.O. Box 8576, Fort Lauderdale, Florida (6900 West Road 84)



PHELPS DODGE TELEPHONE WIRE AND CA

THE "MINE-TO-MARKET" QUALITY LI

PH

SALES
Wayne,
Orleans,

Paper-Insulated Lead-Sheathed Telephone Cable

This Phelps Dodge telephone cable combines the superior transmission characteristics of paper insulation with the durability and moisture resistance of lead. It is backed by Phelps Dodge's extensive research and manufacturing experience in the paper-lead cable field.

The controlled craftsmanship and quality of this paper-lead cable are typical of the entire line of Phelps Dodge telephone wires and cables, including:

- Exchange Area Telephone Cable
- Self-Supporting Telephone Cable
- Rural and Urban Distribution Telephone Wire
- Interior Telephone Cable
- Rubber-Insulated Lead-Sheathed Telephone Cable
- PD—Tel Wire

PHELPS DODGE COPPER PRODUCTS

CORPORATION

SALES OFFICES: Atlanta, Birmingham, Ala., Cambridge, Mass., Charlotte, Chicago, Cincinnati, Cleveland, Dallas, Dayton, Detroit, Fort Wayne, Greensboro, N. C., Houston, Indianapolis, Jacksonville, Kansas City, Mo., Los Angeles, Memphis, Milwaukee, Minneapolis, New Orleans, New York, Philadelphia, Pittsburgh, Portland, Ore., Richmond, Rochester, N. Y., San Francisco, St. Louis, Seattle, Washington, D. C.

PD

the BEST pay station products

In addition to the standard 400 booth, B-N offers these proven products:

- **INDOOR BOOTH** Handsome, clean lines. Features automatic ventilating, cool light, swivel seat.
- **ALL GLASS BOOTH** Harmonizes with surroundings. Avoids blocking views, merchandise. Strong — ¼" tempered glass.
- **DIRECTORY STAND** Newest, best, simplest. 10,000 page capacity. Protects books. Saves space. No binders.
- **BUILT-IN BOOTH SET** Door and frame sets — single or multiple — for built-in installations.
- **MULTIPLE BOOTH SET** Easy-to-install connecting panels. No drilling necessary.
- **CUSTOM DECORATOR BOOTHS** Infinite variety in combinations of porcelain enamel and in-glass laminates.
- **DIRECTORY RACKS** For in-booth use. Protects books, stays open at selected page. No binders.

Write for detailed information and name of your nearest distributor...
Benner-Nawman, Inc., 3421 Hollis Street
Oakland 8, California

B N Booth Products

a B-N booth is a busy booth!

say "Lindsay" when you order

For friendly, prompt, *complete* service in telephone supplies, more and more leading companies say "Lindsay" when they order. Lindsay specializes in telephone supplies only—warehouses a complete line of the finest nationally known brands.

THE LINDSAY TELEPHONE SUPPLY CO.

360 East Highland Road, Northfield, Ohio
Telephone: IMperial 7-7181

LOOK TO LINDSAY FOR THE FINEST

INPUT
48 volts DC
from exchange battery

OUTPUT
24 volts DC
15 amps., 350 watts

THE *New* LORAIN BAT-TAP

another FIRST from LORAIN!
the only device delivering 24 volts DC
with full efficiency, full battery protection

NO POWER LOSS
Voltage reduction by CEMF cells or resistors wastes half the power used. Bat-Tap prevents this loss.

PROTECTS BATTERY
Voltage reduction by tapping the battery causes uneven charging and discharging of cells, unless an extra 24-volt charger is used on the cells involved. Bat-Tap protects your battery, needs no extra equipment.

NO MOVING PARTS
The Lorain Bat-Tap uses a new transistorized inductor arrangement combined with silicon diodes. 48-volt DC is first converted to AC, then to 24-volt DC in a simple, foolproof circuit.

SAFE ON OVERLOADS
Bat-Tap easily withstands intermittent overloads up to 30%.

FULL EFFICIENCY
Efficiencies are as high as 80 to 89% from 25% of rating to 30% overload. Efficiency at full load is 87.5%.

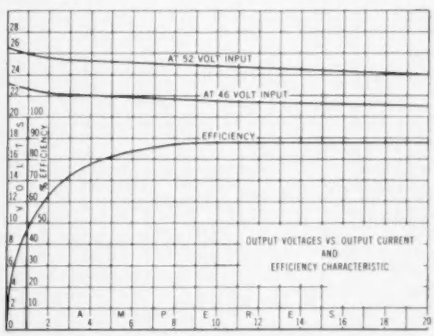
RATINGS
Model QB15A

Input: 44-52 volts, 0.5 ampere no load, 8 amperes 400 watts full load.

Output: 21-27 volts at full load of 15 amperes, 350 watts.

Regulation: 1.5 volt drop from 1 ampere to 15-ampere load.

Filtered input and output (output filtered to 2 millivolts).



EASY INSTALLATION
Bat-Tap requires only simple external connection of input and output leads. Fits 19″ relay rack. Height 6¾″. Depth 9¾″. Weight 32 lbs.

ZERO MAINTENANCE
The Lorain Bat-Tap never needs attention. There is nothing to wear out or need adjustment. Install it and you can forget about your 24-volt power supply.

POWER EQUIPMENT FOR COMMUNICATIONS AND INDUSTRY

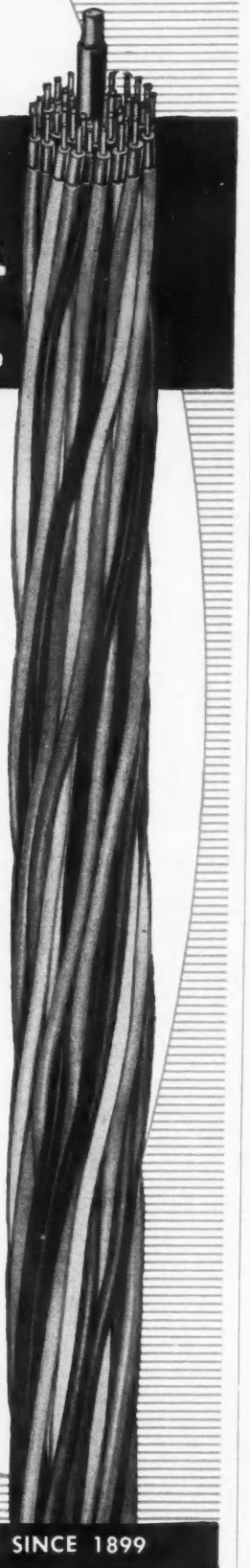
our equipment
sold through leading
telephone distributors

FLOTROL
PARTNERS IN DEPENDABILITY
SUB-CYCLE

LORAIN *Products Corporation*
1122 F Street Lorain, Ohio Phone: ATlantic 8-9191

WHITNEY BLAKE

multi-pair distribution wire . . . . . .



EXTENDS SERVICE FAST IN RAPIDLY GROWING AREAS

Made in a variety of combinations from 2 to 16 pair, WB Multi-pair Distribution Wire affords a fast, economical method of extending service where needed. This wire has been used successfully to temporarily replace storm damaged circuits, to serve during relocation of lines due to road building or other construction and in many other ways. When used for temporary service it may be salvaged and re-used.

WB Multi-pair Distribution Wire is light in weight, is self supporting and is shipped in long lengths.

INDEPENDENT

WB

7-8

WELL BUILT WIRES SINCE 1899

WHITNEY BLAKE COMPANY

NEW HAVEN 14, CONNECTICUT

coming

CONVENTIONS

VIRGINIA Independent Telephone Association, Roanoke Hotel, Roanoke, Oct. 30-31, 1958.

SOUTH CAROLINA Telephone Association, Clemson House, Clemson, Nov. 5-6, 1958.

OKLAHOMA Telephone Association, Huckins Hotel, Oklahoma City, Nov. 5-6, 1958.

ALABAMA - MISS. Telephone Association, Thomas Jefferson Hotel, Birmingham, Ala., Nov. 10-11, 1958.

GEORGIA Telephone Association, Gen'l Oglethorpe Hotel, Savannah, Nov. 12-13, 1958.

SOUTH DAKOTA Telephone Association, Marvin- Hughitt Hotel, Huron, S. D., Nov. 13-14, 1958.

FLORIDA Telephone Association, Soreno Hotel, St. Petersburg, Dec. 4-5, 1958.

MINNESOTA Telephone Association, Leamington Hotel, Minneapolis, Feb. 15-18, 1959.

TEXAS Telephone Association, Hilton Hotel, San Antonio, March 2-4, 1959.

KENTUCKY Telephone Association, Phoenix Hotel, Lexington, March 3, 1959.

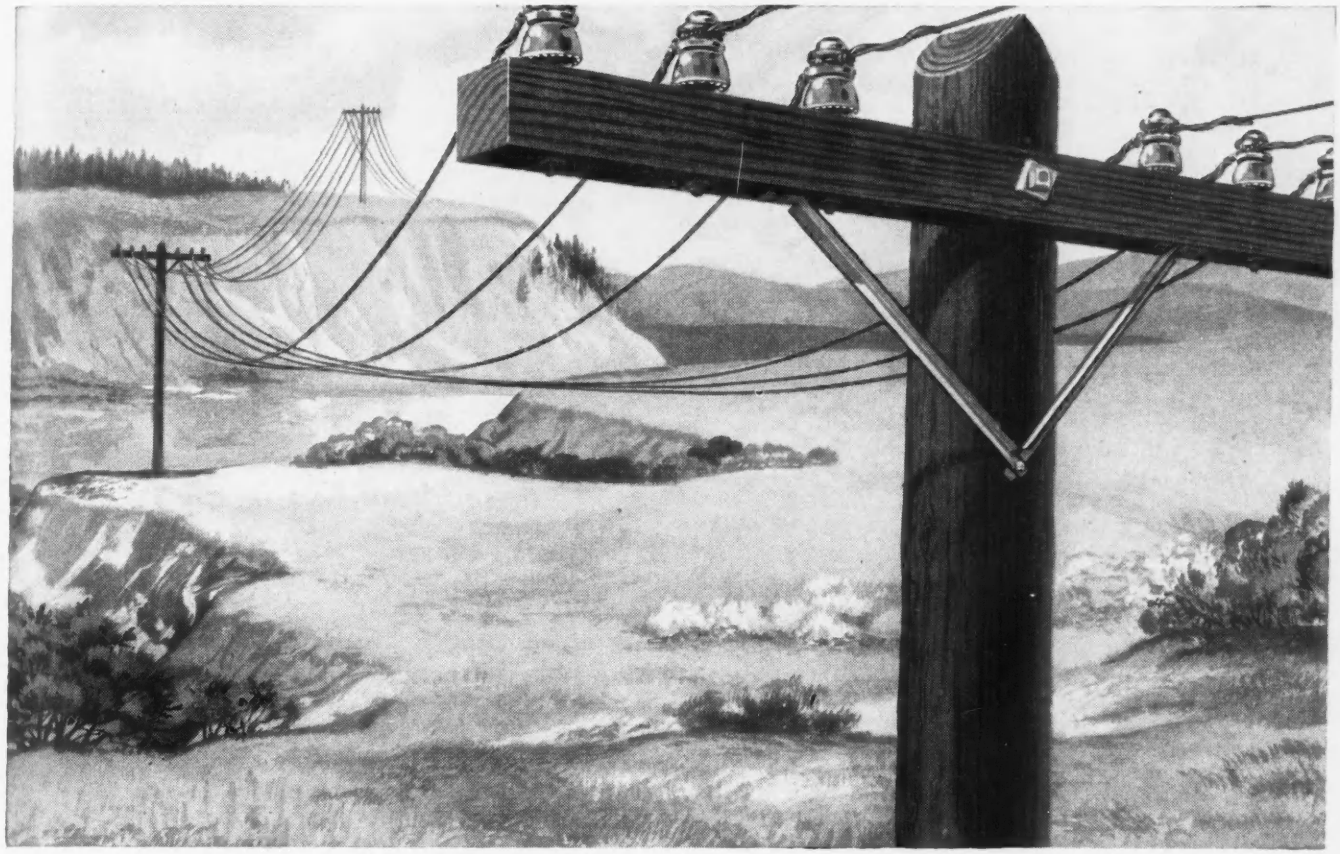
IOWA Independent Telephone Association, Hotel Fort Des Moines, Des Moines, April 7-8, 1959.

OHIO Independent Telephone Association, Deshler Hilton Hotel, Columbus, April 13-15, 1959.

NEBRASKA Telephone Association, Hotel Cornhusker, Lincoln, Apr. 21-22, 1959.

NEW YORK Telephone Association, Scaroon Manor, Schroon Lake, June 20-22, 1959.

Tiger Brand Amertel 195 offers improved voice transmission efficiency... makes possible spans 700 feet long!



USS Amertel 195 has the physical and electrical characteristics to give it transmission efficiency higher than any other galvanized steel telephone wire. The AC resistance of USS Amertel in the audio frequency range is well below that of standard BB wire, greatly improving voice transmission quality.

Amertel 195 is so much stronger than ordinary BB wire that it makes practical longer rural line spans. In Light Loading districts spans up to 700 feet are possible. Spans may reach 650 feet in Medium Loading, and 600 feet in Heavy Loading.

These extra-long spans result in greatly reduced costs for every mile of line strung:

- *Fewer poles are required, with savings in man-hours, hauling, pole digging and installation.*
- *Telephone wire can be installed on rural power line poles without the use of intermediate supporting poles.*
- *Rural lines can readily be strung over rivers, gullies or other places where long spans are necessary.*

USS Amertel's superior strength enables it to stand up under severe weather conditions. Heavy ice loads may stretch USS Amertel 195 clear to the ground, but when the ice melts the Amertel line will return to its position in the air.

Send for free new Amertel Booklet. Just off the press, this new booklet tells all about USS Amertel 195 Telephone Line Wire. To get your free copy, just write to American Steel & Wire, Rockefeller Building, Cleveland 13, Ohio. Complete information is also included on USS Amerstrand Guy Wire.

USS, Tiger Brand, Amertel and Amerstrand are registered trademarks

American Steel & Wire Division of USS United States Steel

Columbia-Geneva Steel Division ,San Francisco, Pacific Coast Distributors · Tennessee Coal & Iron Division, Fairfield, Ala., Southern Distributors
United States Steel Export Company, Distributors Abroad

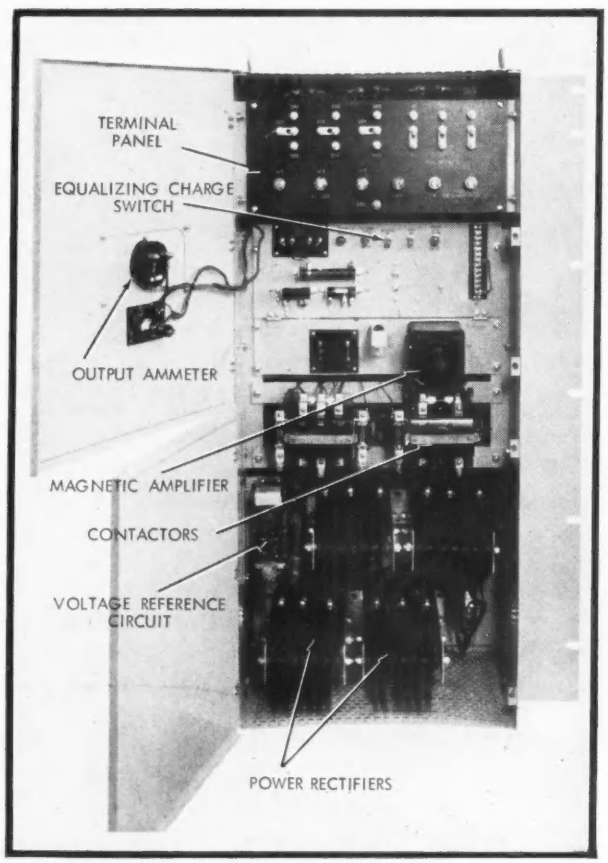
in the power field . . .

NEWS ABOUT RAYTHEON DEVELOPMENTS IN

HOW TO REDUCE YOUR TOTAL POWER SYSTEM COSTS

With Raytheon 48-volt Rectichargers you can extend the life of your storage batteries and cut maintenance and operating costs . . . facts below

BATTERY MAINTENANCE AND REPLACEMENT. Close regulation of "float voltage", adjustable from 2.13 to 2.18 volts per cell with batteries of 23 to 26 cells, prevents gassing, loss of water and sulfation caused by over and undercharging.



Line voltage changes of ±10% from no load to full load are controlled within ±1%. Life of batteries maintained on "float voltage" at their proper cell rating may exceed 18 years.

POWER SUPPLY OPERATION AND MAINTENANCE. Automatic, completely static charger, with conservatively rated components, is self-protecting and needs no periodic maintenance. Recommended annual inspection is all that is required.

No manual adjustments needed to correct for the effects of rectifier aging. Magnetic amplifier automatically compensates for output variations resulting from changes in circuit characteristics.

SYSTEM PERFORMANCE AND MAINTENANCE. Charger performs at higher efficiency in the normal operating loads of your switchboard, resulting in significant savings in power costs.

Built-in overload protection automatically limits available current when load increases beyond 125% of charger rating. This safeguards Recticharger and other exchange equipment.

In case of line power failure, a relay in the charger input opens the output circuit and prevents battery discharge back into the AC supply.

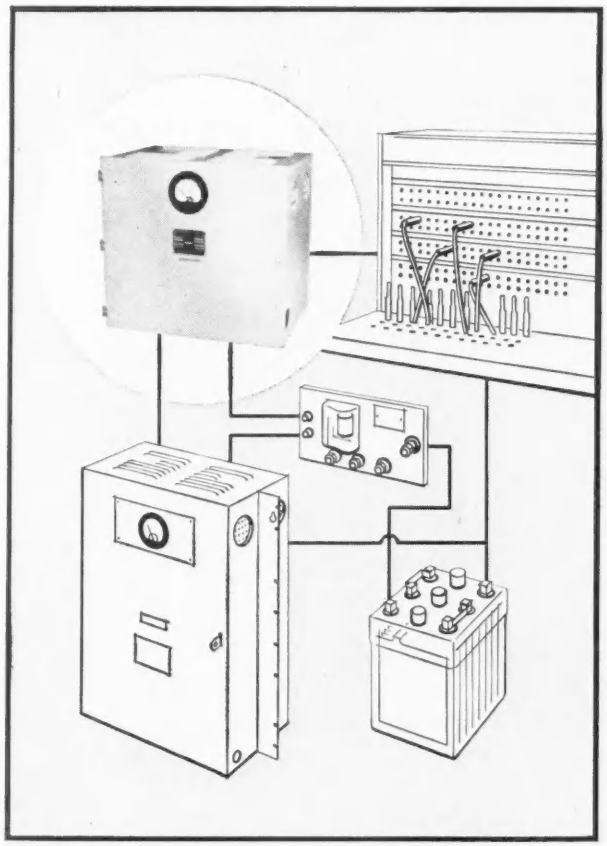
RAYTHEON MANUFACTURING COMPANY
WALTHAM, MASSACHUSETTS

. . . with Raytheon

IN TELEPHONE POWER SUPPLIES

RAYTHEON

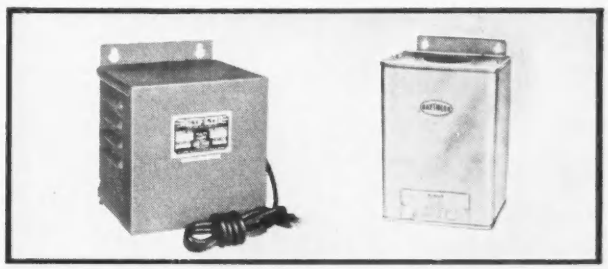
A SPECIAL EDITION



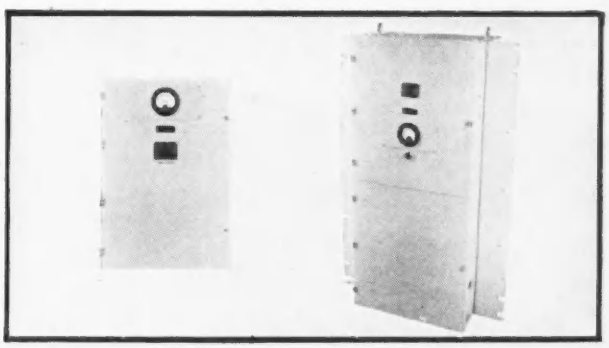
AN EFFICIENT WAY TO EXPAND CAPACITY OF THE RECTICHARGER

Economical too! With the help of a Raytheon Auxiliary Charger, an existing installation handles the additional load during the peak demand periods and takes care of "borderline loading" -- too high for the Recticharger but too low to warrant the purchase of a higher capacity charger. System diagram above shows interconnection of Auxiliary Charger, Recticharger, control relay and load. Auxiliary charger is cut in and out of circuit depending on load condition.

COMPLETE LINE ASSURES YOU OF THE RIGHT EQUIPMENT. Raytheon's line of telephone power supply equipment includes battery eliminators and Rectiringers (battery eliminators with 20 cycle ringing power), both shown below.



48-volt Rectichargers range from 3 to 400 amps in single and three phase models. Two typical models are shown below -- panel at left, rack-mounted at right.



TAKE ADVANTAGE OF RAYTHEON'S NATIONWIDE SALES AND SERVICE FACILITIES. Ask your Raytheon distributor about the special field assistance available to you.

For further facts, please write directly to Raytheon Manufacturing Company, Magnetic Components Department, Commercial Equipment Division, Waltham 54, Mass.

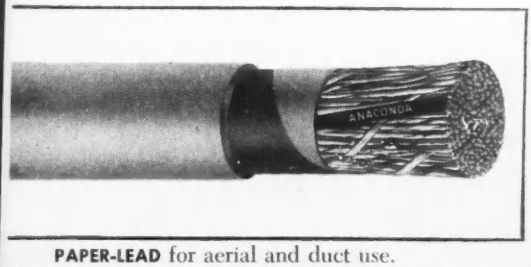
RECTIRINGERS • AUXILIARY CHARGERS • ALL POWER SUPPLY ACCESSORIES

See the Man from Anaconda fo·

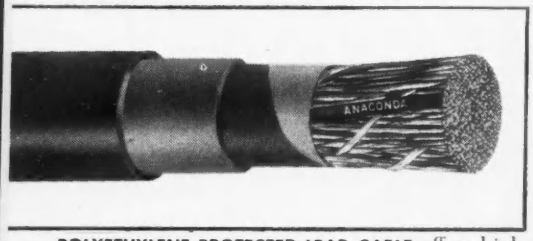
Paper-lead Telephone C

in the type and size you need . . .

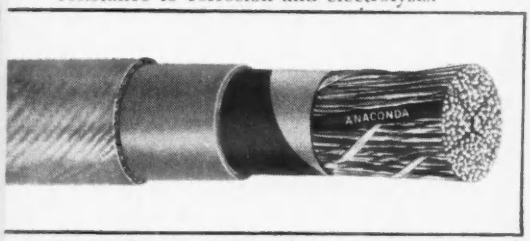
Choose Anaconda Paper-lead Telephone Cable in the type you need.



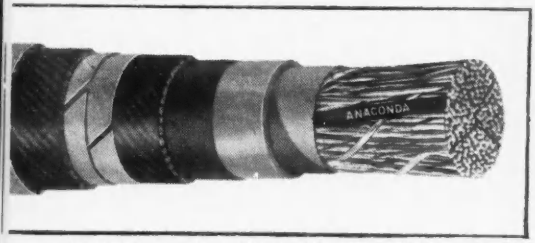
PAPER-LEAD for aerial and duct use.



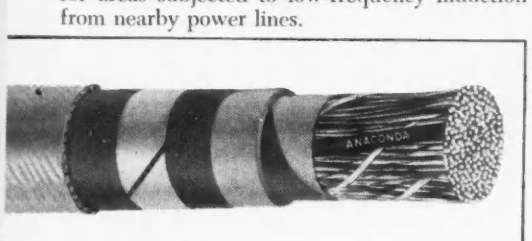
POLYETHYLENE PROTECTED LEAD CABLE offers high resistance to corrosion and electrolysis.



JUTE PROTECTED LEAD CABLE resists corrosion and electrolysis.



BURIED TAPE ARMORED LEAD CABLE (2 layer steel) for areas subjected to low-frequency induction from nearby power lines.



GOPHER PROTECTED LEAD CABLE (1 layer steel) direct burial cable where mechanical protection is needed.

ANACONDA PAPER-LEAD TELEPHONE CABLE being installed near Harold, Kentucky.

Cable from 6 to 2121 pairs—

. . . when and where you need it!

Anaconda offers you everything you need in paper-lead telephone cable—produced in a new, modern plant devoted exclusively to telephone cable products. Telephone experienced personnel who understand your problems utilize the latest, most exacting quality control standards—to produce quality telephone cable. And order service is prompt and efficient wherever you are because of a national network of distributors, Anaconda sales offices, and mills.

Call your Anaconda distributor or the Man from Anaconda for your paper-lead telephone cable needs. Also—write for new Catalog DM-5771. Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.

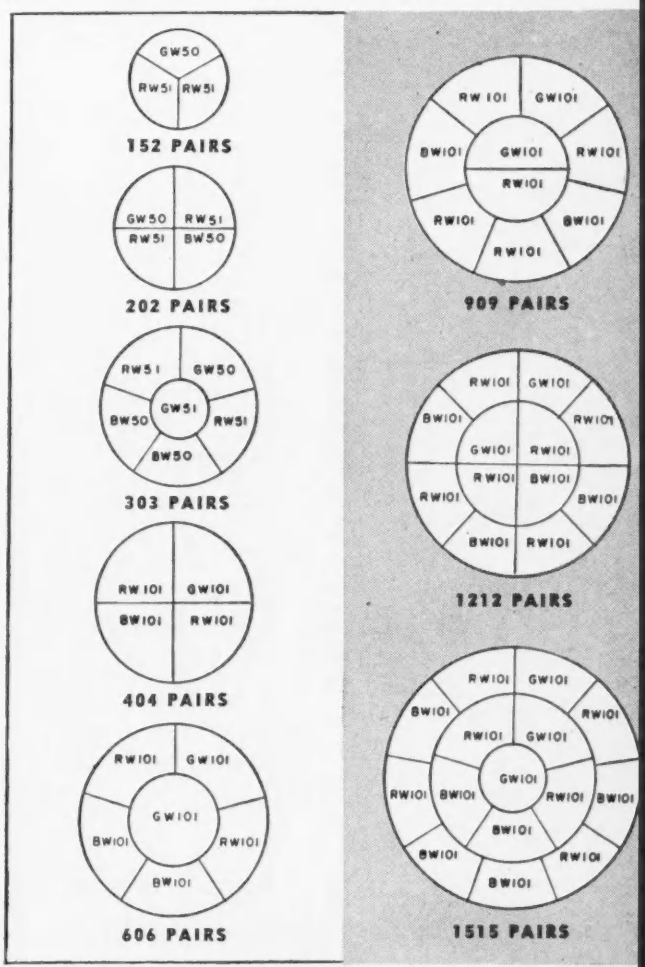
58324

Shown here is a typical unit construction for 152 pairs through 1515 pairs, No. 24 Awg. Following constructions also available:

No. 19 Awg	6 through	455	pairs
No. 22 Awg	11 "	909	"
No. 24 Awg	11 "	1515	"
No. 26 Awg	11 "	2121	"

The number in the assemblies denotes the number of pairs in the unit. The letters refer to the color of the outside pairs of the unit. GW, green-white; RW, red-white; BW, blue-white. The units are further distinguished by a color-coded binder string.

Choose Anaconda Paper-lead Telephone Cable in the size you need.



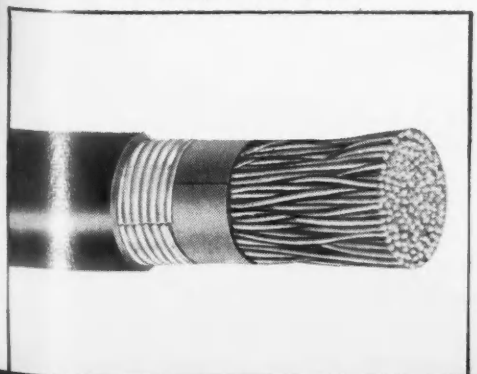
UNITED STATES INDEPENDENT TELEPHONE ASSOCIATION

PHONE THE MAN FROM ANACONDA®

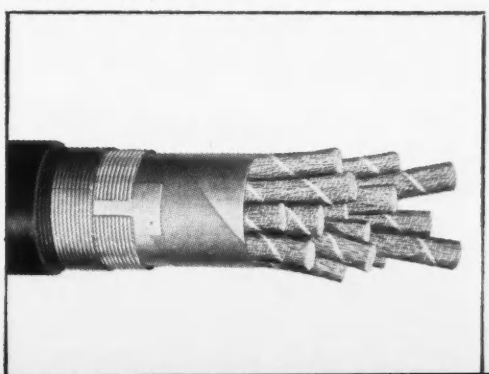
The Independent Manufacturer to the Independent Telephone Industry

FOR TELEPHONE CABLE

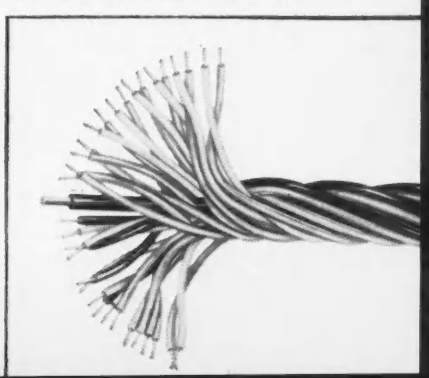
ALPETH—Polyethylene-insulated, low-resistance aluminum shield, polyethylene jacket.



STALPETH—Paper-insulated, aluminum shield, steel tape, polyethylene jacket.



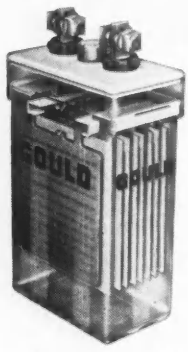
DISTRIBUTION WIRE—rural [#19], suburban [#22] and urban [#24].



Roy Pinney photo taken at Cypress Gardens, Florida

UNIQUE PERFORMANCE...

with a trouble-free **gould**



America's Finest!
GOULD PLANTÉ
The Aristocrat of
Stationary Batteries

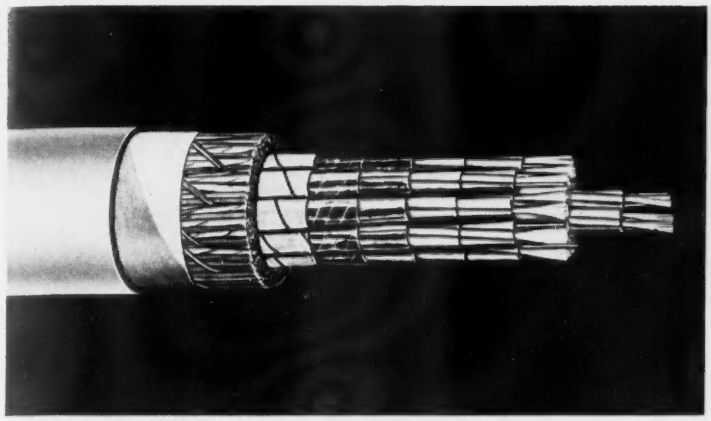
Dependable day in, day out operation; long, trouble-free life—this is what you get with a GOULD battery. And, in addition, GOULD field engineers will help you solve application problems, establish preventive maintenance procedures, and make routine calls to insure maximum pay loads—at no extra cost to you. Check your local GOULD representative for details on this unique service. Gould-National Batteries, Inc., Trenton 7, N. J.

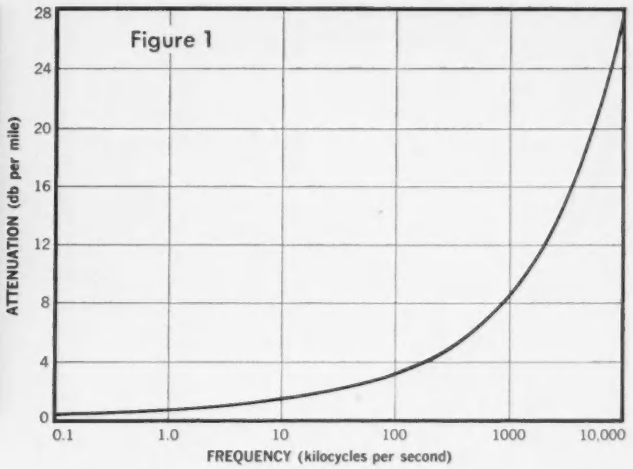
More Power to you from Gould

Always Use Gould-National Automobile and Truck Batteries

GENERAL CABLE MANUFACTURES

VIDEO PAIR CABLE





VIDEO PAIRS are wide range, balanced transmission lines which are finding ever-increasing uses for high frequency applications. These specially designed pairs can be incorporated in cables containing either paper insulated or plastic insulated telephone pairs or incorporated within their own lead sheath or plastic jacket. Video pairs are in general use for remote TV pick-up points such as athletic fields and convention halls. These same pairs are also suited for a variety of other high frequency applications such as closed circuit TV, telephone carrier circuits and links to microwave stations. Cables containing video pairs are suitable for aerial or duct installation or can be armored for direct burial and submarine use.

The basic video pair consists of 2 conductors of #16 AWG solid annealed uncoated copper, insulated with foam polyethylene. These are paired with fiberglas-reinforced foam polyethylene fillers. Over this is applied a helically wrapped polyethylene tape, a parallel fold copper tape, and a helically applied copper tape. Video pairs that are used under lead sheaths will have creped kraft paper tapes applied over the copper shielding tapes and those under plastic jackets will have a polyethylene tape applied over the copper shielding tapes. When several video pairs are incorporated in a cable, the length of pairing lay will be varied and the pairs will be arranged in the cable to minimize magnetic coupling between pairs.

CONDUCTOR RESISTANCE: The conductor resistance shall not exceed 23 ohms per mile of cable (68°F).

MUTUAL CAPACITANCE: The mutual capacitance shall be not more than .058 microfarads nor less than .051 microfarads per mile.

CAPACITANCE UNBALANCE: The capacitance unbalance between conductors and shield shall not exceed 0.50 micromicrofarads per foot.

DIELECTRIC STRENGTH: Insulation shall be capable of withstanding a-c test potential for 2 seconds (maximum instantaneous) of 2800 Volts between conductors and between conductors and shield.

INTERNAL ECHO: The worst internal echo in a video pair shall be down at least 36 db from the measuring pulse.

CHARACTERISTIC IMPEDANCE: The characteristic impedance shall be 125.5 $\pm$ 3.5 ohms.

ATTENUATION: Figure 1 shows attenuation versus frequency on a typical cable.

Distributed by:

Automatic Electric Sales Corporation
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427 W. Randolph Street
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GENERAL CABLE CORPORATION, 420 Lexington Ave., New York 17, N. Y.
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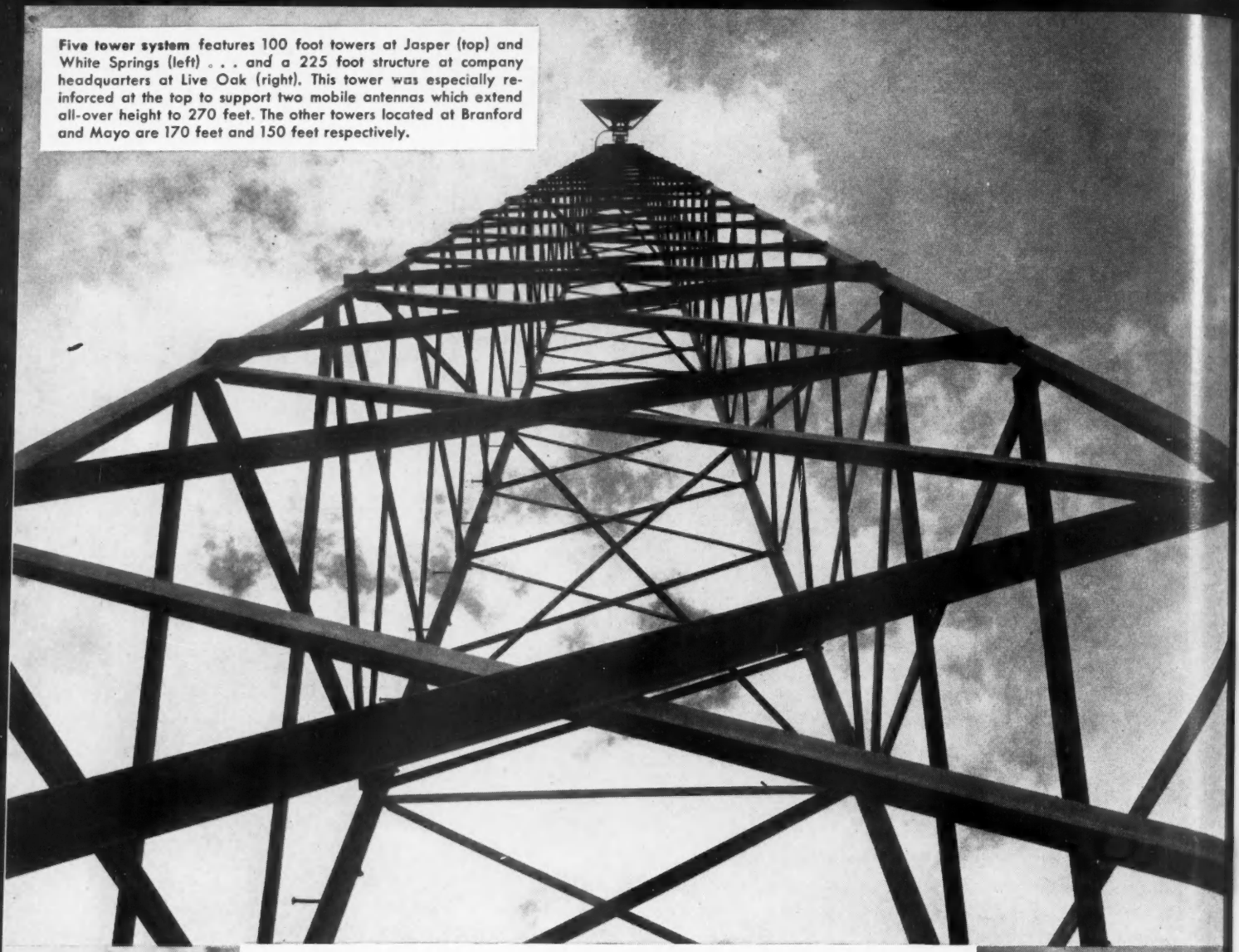
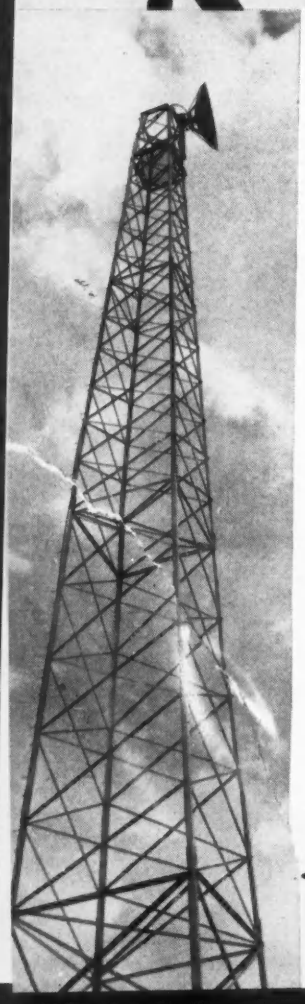
for quality and service...specify GENERAL CABLE



Five tower system features 100 foot towers at Jasper (top) and White Springs (left) . . . and a 225 foot structure at company headquarters at Live Oak (right). This tower was especially reinforced at the top to support two mobile antennas which extend all-over height to 270 feet. The other towers located at Branford and Mayo are 170 feet and 150 feet respectively.



On these Blaw-Knox towers North Florida Telephone builds its big microwave future

Fast growing Florida looks toward a bright future. And forward looking telephone companies keep pace with easily expandable microwave systems. North Florida Telephone Company, for instance, had 3,675 phones in '53, plans to have 9,000 phones in service by the end of '58. They found for low cost maintenance and economical expansion nothing does it like microwave.

And they found Blaw-Knox Microwave Towers best suited to their dynamic growth. Backed by over 40 years of tower experience, Blaw-Knox designs to individual area requirements, engineers to established specifications and builds for future adaptability.

Blaw-Knox's complete tower service includes adapting towers to sites, modern fabrication and experienced erection assistance. For details, write for Microwave Tower Booklet 2538.

Microwave Towers — guyed and self-supporting towers for microwave, AM, FM, TV, radar and communications . . . transmission towers . . . parabolic antennas . . . special structures.

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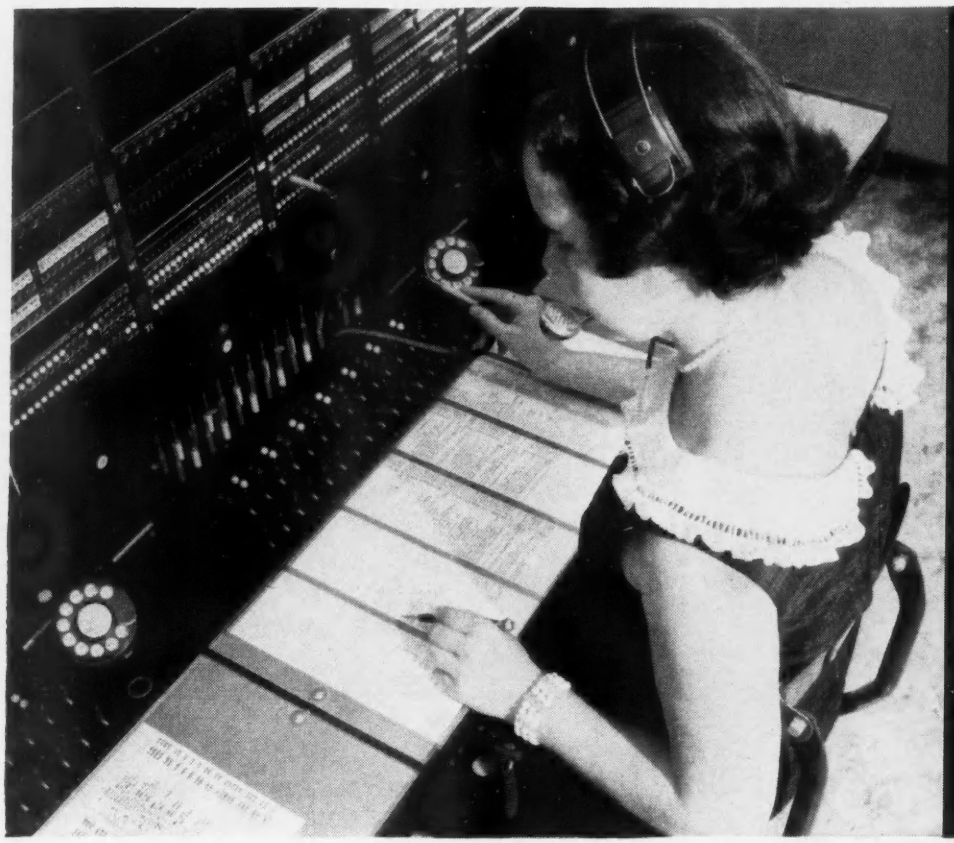
BLAW-KNOX COMPANY
Equipment Division
Pittsburgh 38, Pennsylvania

ACME VISIBLE

UNDER-GLASS BULLETIN HOLDER



FOR QUICK REFERENCE TO:

1 Emergency phone numbers, such as Fire Dept., Police Dept., Ambulance and Hospital numbers.

2 Hotels with P.B.X. service.

3 Western Union phone numbers.

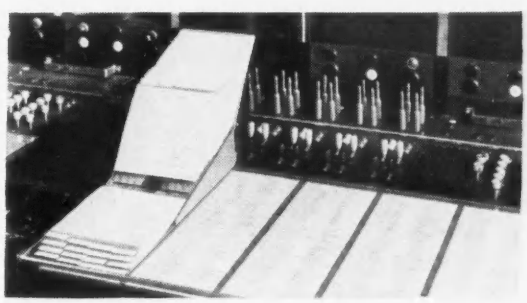
4 Telephone numbers of local companies receiving frequent long distance calls.

5 Frequently called direct circuit points and tributaries.

6 DSA Toll points.

Illustration shows set of 6 visible panels with filler strips at each end . . . 10 7/16" high overall.

Make corrections and changes easier because the bulletin can be removed without loosening the glass. Only the panel (page) to be corrected need be removed. One-piece steel construction. The front edge is formed to provide an easy "pull" to slide panel out. Meets dimensional requirements of both individual panels and overall size of boards.



Used with an Acme Visible Multi-Card Bulletin Holder

Acme Visible Equipment is designed for telephone use by Systems Engineers in close cooperation with practical, experienced telephone experts. Tell us your requirements and receive our suggestions and quotations.

ACME VISIBLE RECORDS, INC., Telephone System Division, Crozet, Virginia

Please send us illustrated booklet of equipment specifically designed for Telephone Companies.

☐ **We are interested in Acme Visible equipment for** _____ (kind of records) **records.**

Check department: ☐ **Accounting** ☐ **Commercial** ☐ **Plant** ☐ **Traffic** S-1058

☐ **Have representative call. Date** _____ **Time** _____

Company _____ **Attention** _____

Address _____

City _____ **Zone** _____ **State** _____

COOK CABLE COAT

Now Furnished with the New

COOK

3C

PROTECTOR BLOCKS

IN

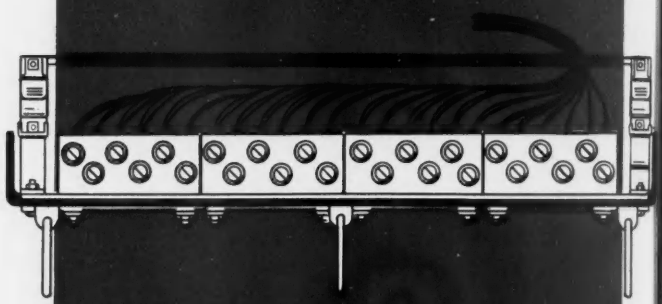
3-6-16 PAIR SIZES

&

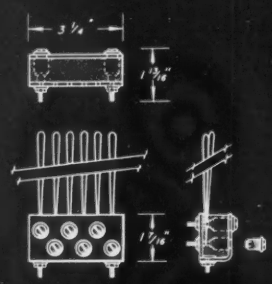
MINIGAP ARRESTERS

No need to forego protection when benefiting from the economies and installation advantages of the Cook Cable Coat. As illustrated here, 3, 6, 9, 12 or 16 cable pairs can be terminated and protected by combining the new Cook 3C PROTECTOR BLOCKS in terminating the cable pairs. Furthermore, by inserting Minigap arresters, cable pairs are protected selectively, thus affording the maximum flexibility and economy in providing protected termination for subscriber take-offs or test points. The new Cook 3C PROTECTOR BLOCKS are factory wired. A pair of leads are provided for each terminal. A heavy aluminum angle plate acts as ground strip and mounting plate. The bakelite face plate and aluminum angle plate cover the EXG 41 resin potting compound thus assuring moisture free termination.

FOUR 3 PAIR 3C PROTECTED BLOCKS



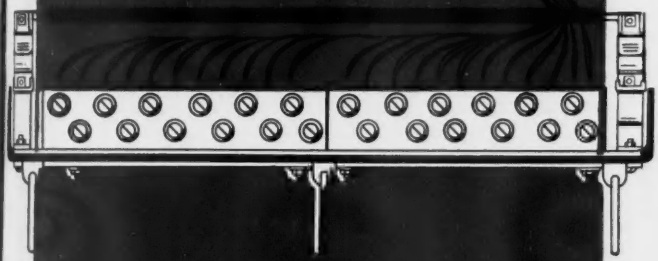
U.S. PAT. NO. 2,688,105
CANADA PAT. NO. 516,479



Three pair 3C protected block	81-203
*Minigap Arrester (.01" airgap)	41-610

* Listed as Standard by the R E A

TWO 6 PAIR 3C PROTECTED BLOCKS



U.S. PAT. NO. 2,688,105
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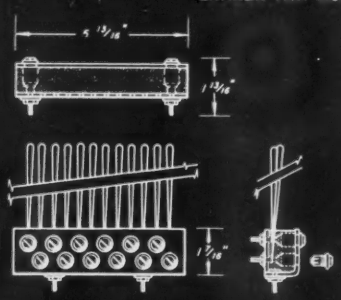
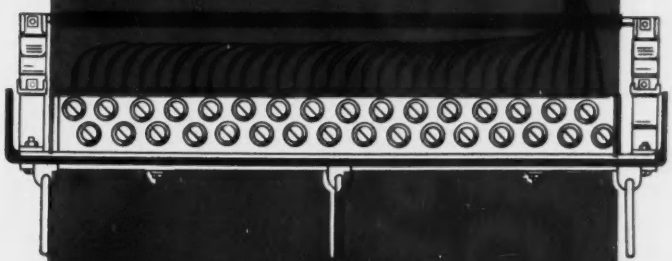
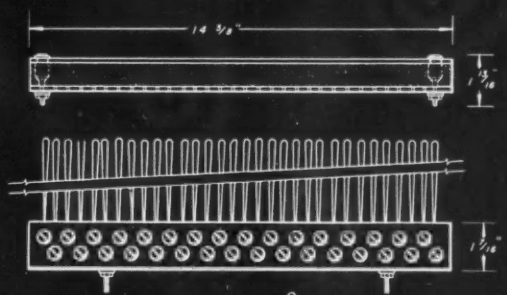


Six pair 3C protected block	81-206
Minigap Arrester (.005 airgap)	41-285

ONE 16 PAIR 3C PROTECTED BLOCK





U.S. PAT. NO. 2,688,105
CANADA PAT. NO. 516,479

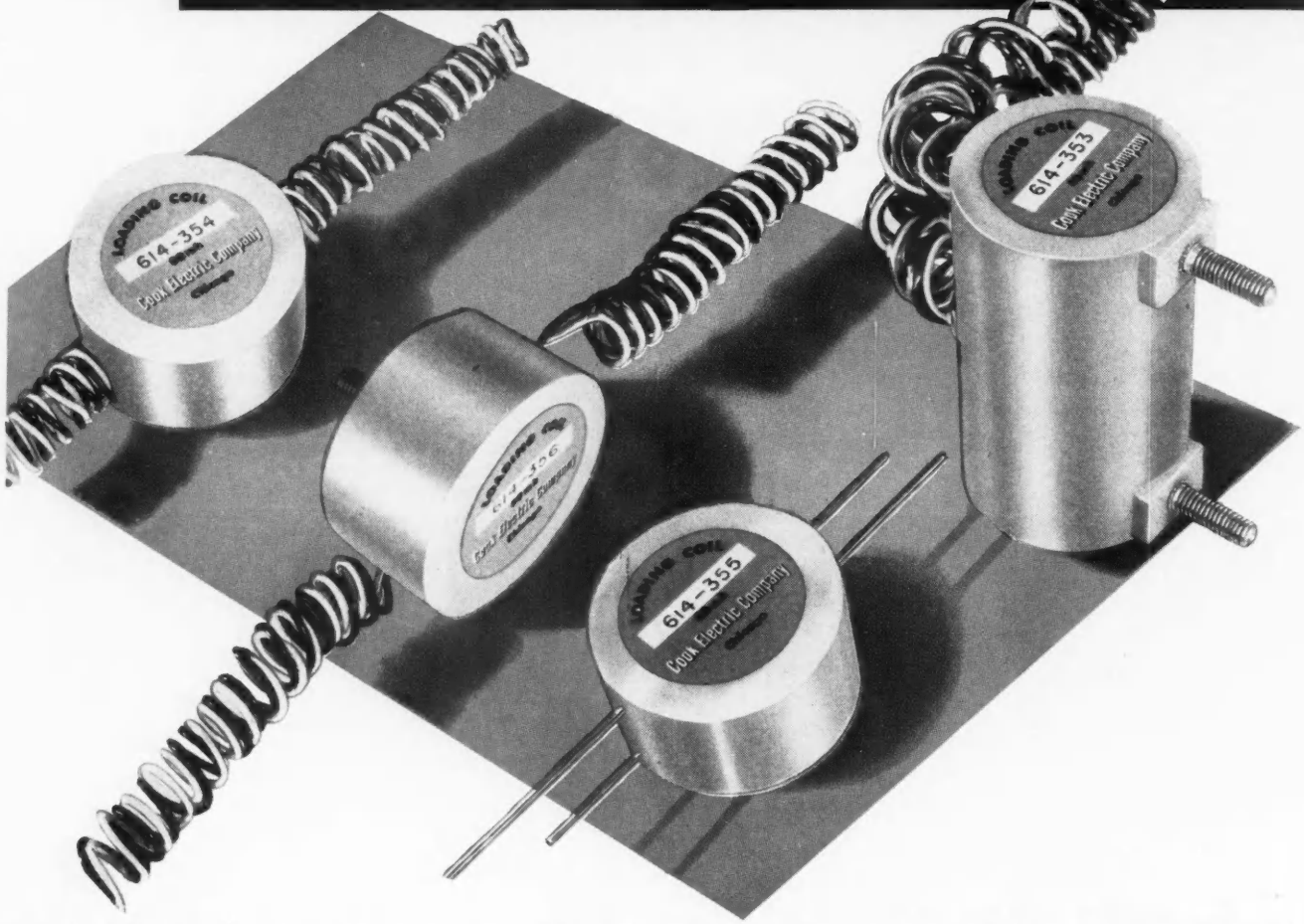
Sixteen pair 3C protected block	81-216
Minigap Arrester (.005 airgap)	41-285

COOK ELECTRIC Company
Since 1897

2700 SOUTHPORT AVENUE CHICAGO 14, ILLINOIS

Requested AND NOW READY TO INSTALL

COOK **Hi-Fi LOADING COILS**



Install Cook Hi-Fi loading coils on your long lines and rural distribution wires and notice the improvement in the speakers voice enunciation. Avoid clipping the higher voice frequencies and improve your subscriber toll line traffic.

Integrally molded coils insure positive moisture seal, high mechanical strength and smaller, more compact units.

Stud mounting now makes it possible to splice coils in buried plant. Pigtails with REA approved color code plastic wire permits easy identification of pairs.

Improved insulation and winding techniques produces greater than a 10,000 volt dielectric strength and a minimum of ½% inductance unbalance.

Easily installed in the Cook Cable Coat, the larger Cook Splice Coat.

COOK ELECTRIC Company
Since 1897

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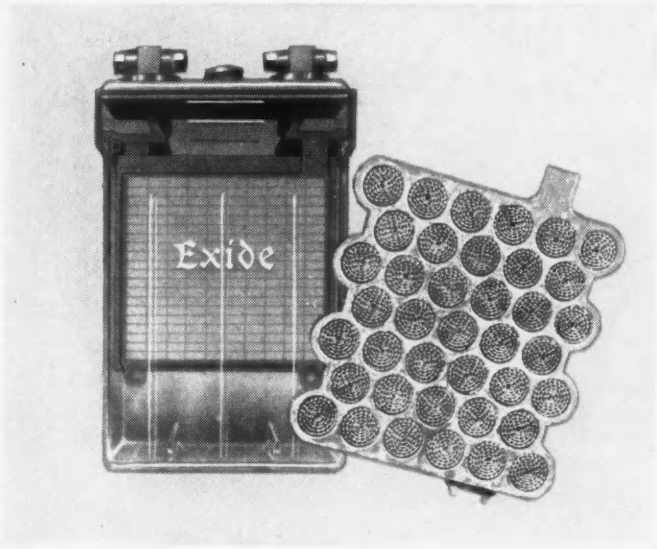
BIGGEST CHOICE...

Exide's 2 types, 18 sizes of telephone batteries

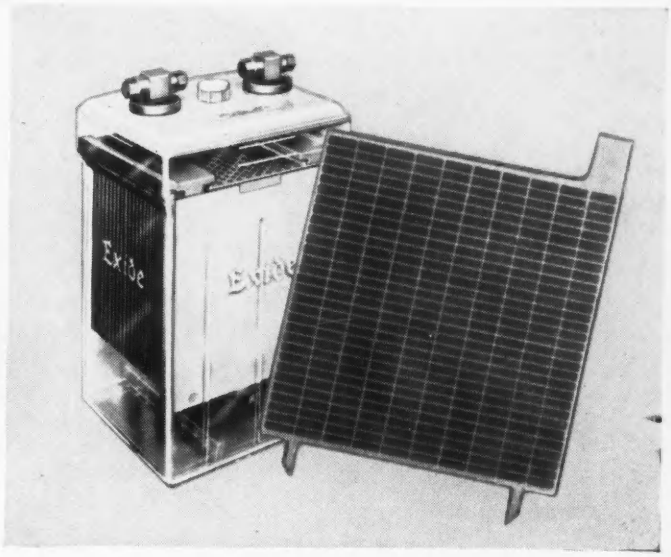


EXIDE-MANCHEX

Famous for long life the world over . . . now improved and better than ever. Qualified for use in both floating and cycling stationary service. Unique positive plate now features Silvium grids . . . Exide's patented grid alloy proved up to 100% more corrosion resistant than other alloys. Suspended plates and large bottom reservoir protect against sediment shorts. High-level electrolyte reduces frequency of watering. Four sizes from 8 to 996 amp-hr capacity.

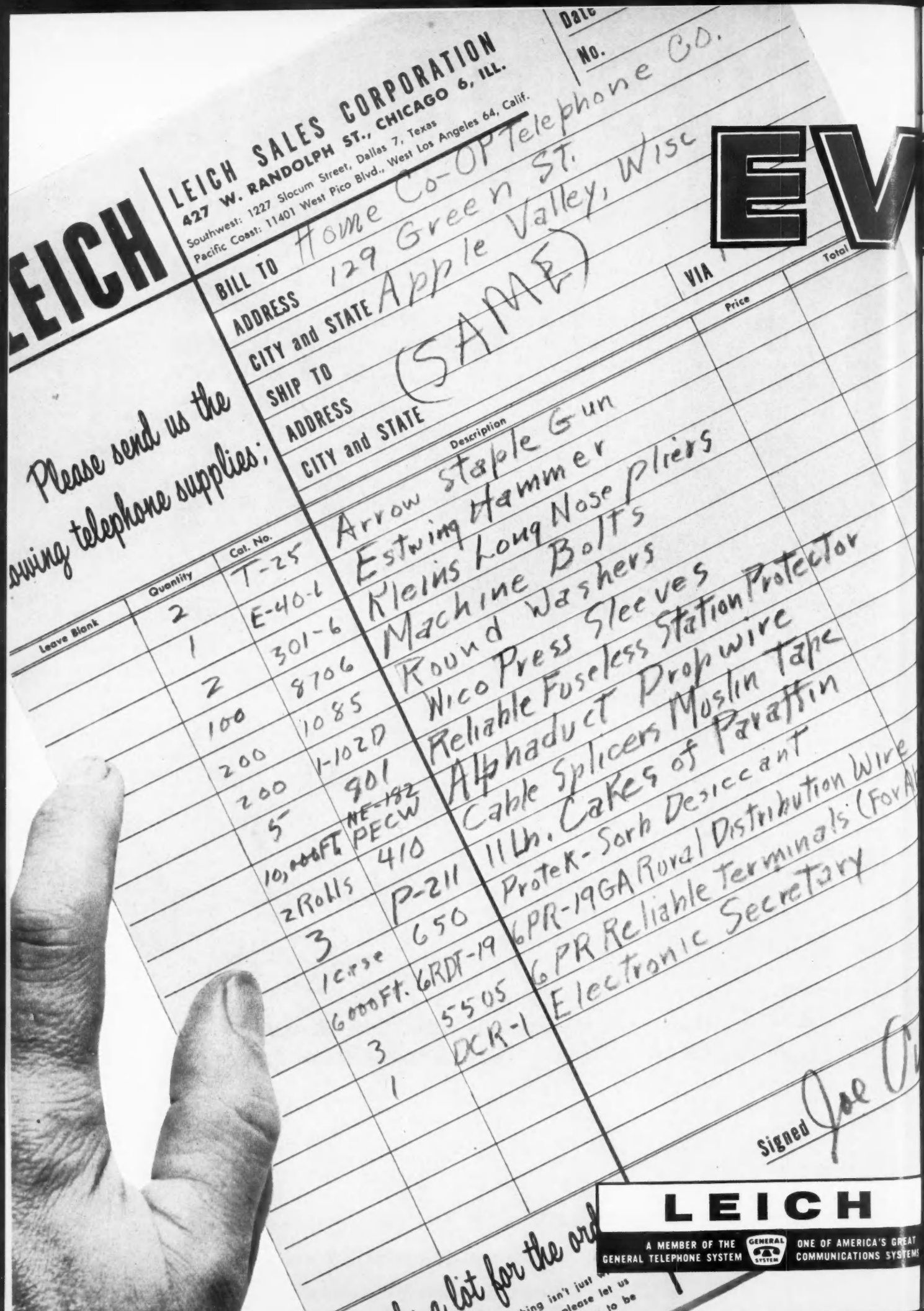
EXIDE-TYTEX

Here is compact power at minimum initial investment. Sizes for the widest variety of specific applications have been carefully developed over the years and constantly improved. Superior materials skillfully used provide maximum power for the greatest economy. Exide-Tytex Batteries are available with positive plate grids of Silvium, Exide's patented corrosion-resistant alloy, or of lead calcium alloy —Exide played a part in the development of the calcium alloy battery. Seven models from 10 to 1680 amp-hr capacity.



Write for catalogs with complete information. Exide Industrial Division, The Electric Storage Battery Company, Philadelphia 2, Pa.

Exide®



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Please send us the following telephone supplies:

Leave Blank	Quantity	Cat. No.	Description	Price	Total
	2	T-25	Arrow staple Gun		
	1	E-40-L	Estwing Hammer		
	2	301-6	Kleins Long Nose Pliers		
	100	8706	Machine Bolts		
	200	1085	Round Washers		
	200	1-102D	Nico Press Sleeves		
	5	901	Reliable Fuseless Station Protector		
	10,000FT	NE-182 PECW	Alphaduct Dropwire		
	2 Rolls	410	Cable Splicers Muslin Tape		
	3	P-211	1 Lb. Cakes of Paraffin		
	1 case	650	ProteK-Sorb Desiccant		
	6000Ft.	6RDT-19	6PR-19GA Rural Distribution Wire		
	3	5505	6PR Reliable Terminals (For A		
	1	DCR-1	Electronic Secretary		

Signed Joe

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...thing isn't just ... please let us ... to be

LEICH
A MEMBER OF THE GENERAL TELEPHONE SYSTEM
ONE OF AMERICA'S GREAT COMMUNICATIONS SYSTEMS

ERYTHING

YOU NEED YOU CAN OBTAIN FROM LEICH

What'll it be? Supplies, construction material or telephone equipment — Leich can take care of all your needs!

We're proud of the products we sell—products from famous manufacturers long acquainted with the demands of the independent telephone industry. Here are supply items made from the finest materials available—made to meet the high standards of the industry. Each has been proved-in-service and each is fully guaranteed by Leich to withstand years of hard use.

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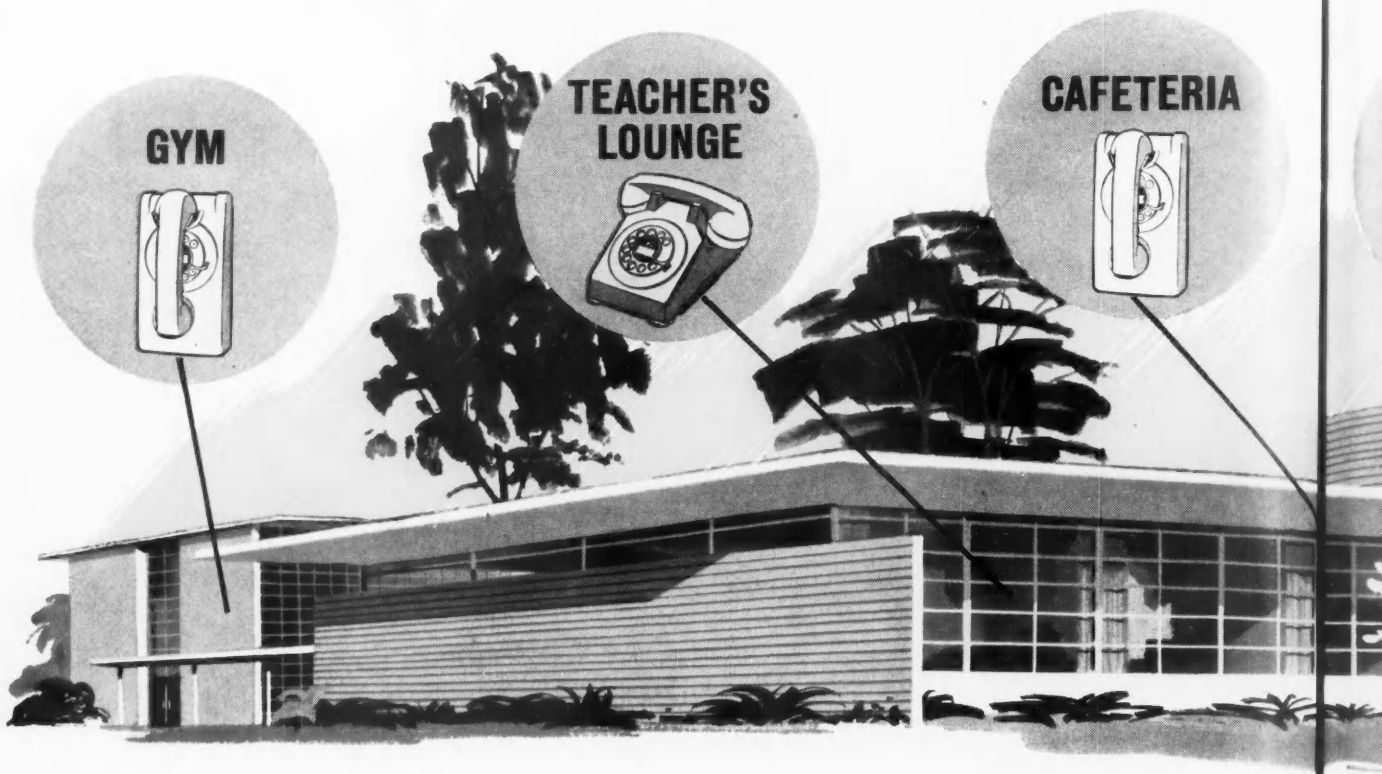
Manufacturers of telephones, switchboards and related apparatus since 1907

Kellogg Color Phones Fit In A



15 Decorative Colors Match Business, School or Home Decors

Bright color schemes are the highlight of today's modern business, school and home interiors. Sparkling colors liven our daily tasks, make them pleasant to perform. Kellogg color telephones play an important part in this picture. The 15 bright new colors of the K-500 series, available in both desk and wall models, will complement any decorative scheme, make the telephone even more pleasurable to use.

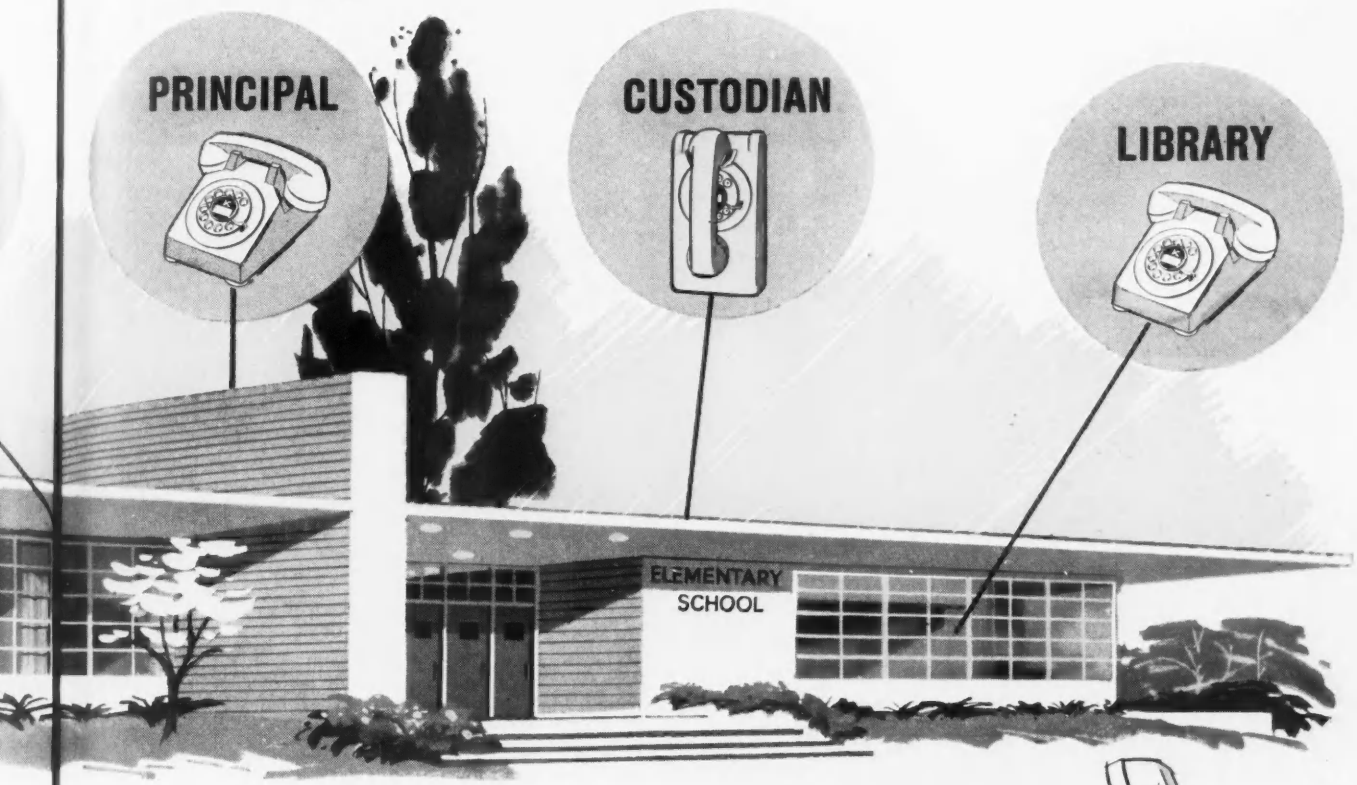
You'll find that this wide range of sparkling colors will help you sell more extension phones, whether your prospect is a business man, school administrator or housewife.

Kellogg is helping you sell more color phones through its widely-promoted color campaign. The theme—"Brighten Life At Home With Color Phones!"—is being brought to the attention of people everywhere through advertising in national magazines, local newspapers, direct mail and other powerful sales promotion tools.

Your Kellogg sales representative will be glad to explain this campaign to you and show you how it can be brought into operation in your community.

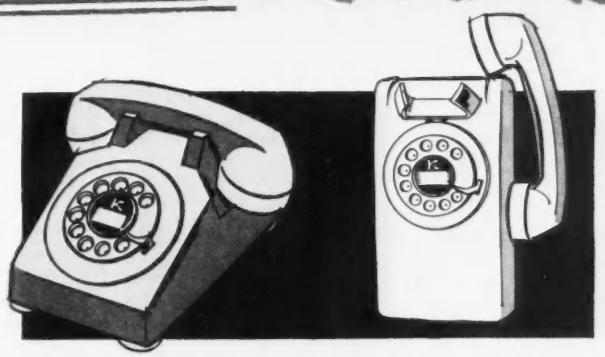
Kellogg Switchboard and Supply Company, 6650 So. Cicero Ave., Chicago 38, Ill. Communications Division of International Telephone and Telegraph Corporation.

In Any Picture!



red, yellow, green, blue, beige, gray, ivory, turquoise, rose pink, aqua blue, light beige, light gray, white, brown, black.

Demonstrate how the handset can be hung without need to break the circuit!



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EXPORT —165 Prospect Street, Passaic, New Jersey. PRescott 3-5100. TWX PAS 1067

A Lorain Telephone construction crew checks over the day's assignment. Not only new construction and maintenance, but work designed to improve existing service is kept on schedule because the Lorain Telephone Company constantly plans ahead.

How Lorain Telephone grows through forecasts of community expansion

Early planning and accurate timing have enabled this progressive independent telephone company to anticipate growth in the Lorain, Ohio, area.

In January, 1940, the Lorain Telephone Company of Lorain, Ohio, had 9,229 subscribers. Today the company has over 37,000. This substantial and steady growth has been well deserved, for it has been based on a sound plan. Lorain Telephone Company executives project the coming needs of their territory and base their plans for inside and outside plant expansion on intimate knowledge of residential, commercial and industrial growth.

Lorain Telephone men watch the plans of industry to locate large and small plants in their territory. Long experience in the community helps these telephone experts to chart the growth of residential developments and service businesses which inevitably follow the opening of new plants. By the time the need arises for additional telephone service, the required equipment is already on order and construction work scheduled.

Caught by the camera at the storeroom of the Outside Plant Department are M. A. (Bud) Fout, (center) Superintendent of Material and Supplies for Lorain, George Ostrander, (left) Graybar Telephone Specialist; and R. H. Vollmer, (right) Graybar Sales Representative. These frequent huddles help keep Lorain inventory in balance.

President Herman E. Hageman, pictured here with his son, James C. Hageman, Vice President, earned his B.S. degree at Ohio Wesleyan in 1903. President Hageman has been in telephone work continuously since his graduation. He has found time, in addition, for distinguished work with the Defense Communications Board and to serve the Ohio Independent Telephone Association as president for 3 years. Recently Mr. James Hageman received for the Company one of the annual Community Service Award Plaques presented by the O.I.T.A.

"We like to do business with Graybar because we get what we need and we get it on time. We know that Graybar, like ourselves, anticipates the needs of customers . . ."

Says James C. Hageman, Vice President of Lorain Telephone Company

Typical of the special installations Lorain makes for its customers is the USI Type 30-B PABX supplied by Graybar and installed at the Lorain Banking Company's main office. Shown here are Adele Zlotnicki at the attendant's cabinet; Gerald West, Lorain Telephone Company Service Engineer (right); and Robert Vollmer, Graybar Sales Representative (center).

Fred Gerber, superintendent of outside plant for Lorain, adds that delivery promises made by Graybar can be depended upon. Also, Mr. Gerber looks to George Ostrander, Graybar Telephone Specialist, for up-to-the-minute product information.

"The construction schedules of our company have been, and are being met," says Mr. Gerber, "in large measure by the fine cooperation we receive from outstanding suppliers, like Graybar."

We at Graybar are proud of our long association with Lorain Telephone Company, one of the many fast growing firms in the vital field of independent telephony. Graybar, too, is an independent company . . . wholly owned and managed by its operating and retired personnel. You get *personal* service from people who have a *personal* interest in giving you the assistance you need . . . when you need it.

Through more than 130 Graybar offices and warehouses, we are serving the independent telephone companies of this country with pole line supplies, central office equipment, subscriber carrier and toll circuit carrier, linemen's tools and safety equipment, poles, conduit and booths — besides providing fast, convenient service on over 100,000 electrical items. For anything and everything electrical, call Graybar *first*. 748-231

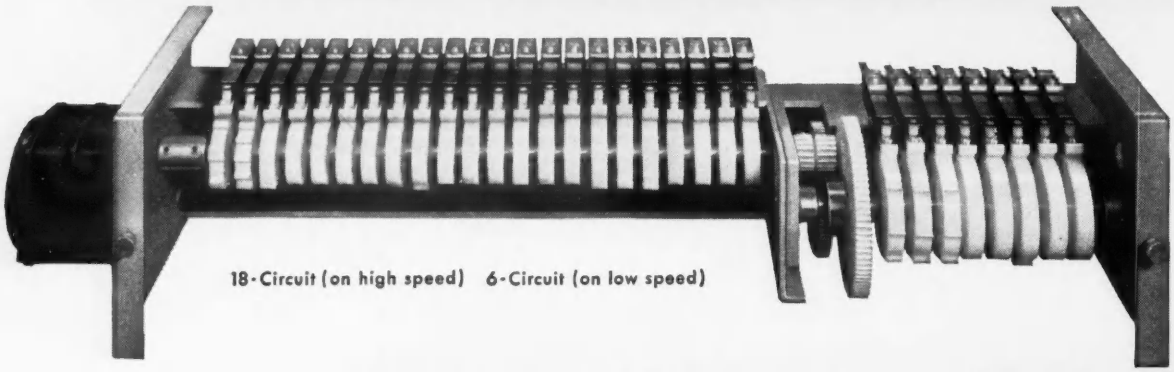
Call Graybar first for...

GRAYBAR ELECTRIC COMPANY, INC.
420 Lexington Avenue
New York 17, N.Y.

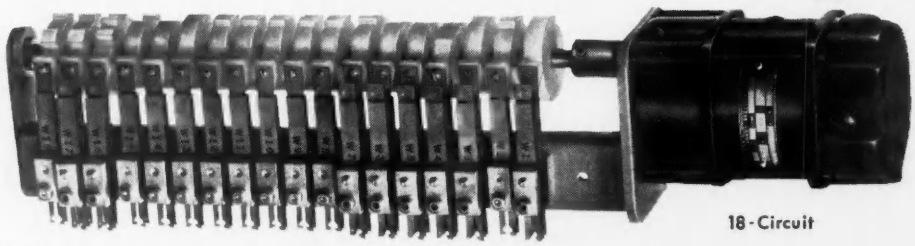
IN OVER 130 PRINCIPAL CITIES

From HOLTZER-CABOT

A complete selection of AC-DC Motor-Driven Interrupter Units

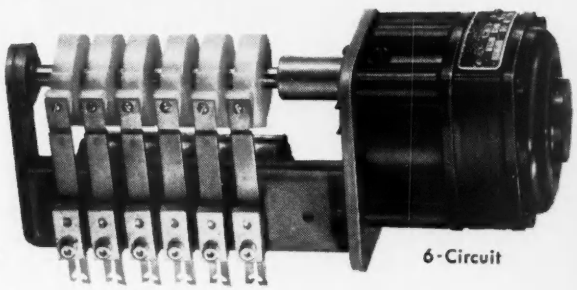


18-Circuit (on high speed) 6-Circuit (on low speed)



18-Circuit

Holtzer-Cabot's six basic interrupter models are designed to permit a wide range of modifications to meet any timing chart requirements. Each unit is equipped with precision-cut nylon cams and cross-bar type contacts. Interrupters can be furnished complete with relay type mounting plates for 19" and 23" relay racks, with or without covers.



6-Circuit

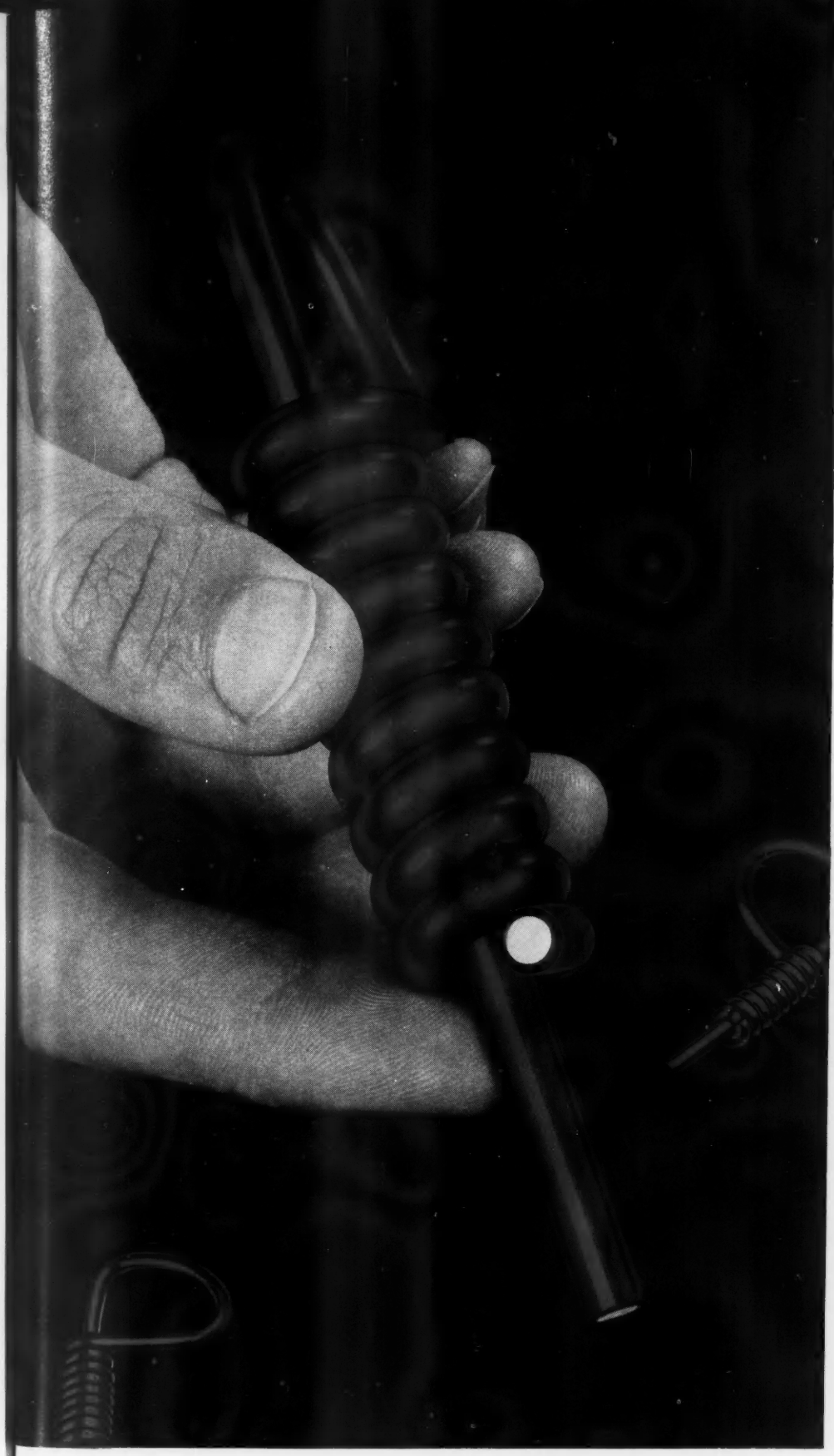
These units are driven by the Holtzer-Cabot R-25 gear head motor . . . This is a precision ball bearing instrument type motor. The spring packs are easily adjusted with an ordinary spring bender of the type used in adjusting relays.

Holtzer-Cabot's half century of experience in designing and manufacturing motor-driven interrupters is reflected in the ruggedness, extreme accuracy and long, trouble-free service of every model.

HOLTZER-CABOT TELEPHONE DIVISION, NATIONAL PNEUMATIC CO., INC.

125 Amory Street, Boston 19, Massachusetts
Sales Service Representatives in Principal Cities throughout the World

Designers and manufacturers of mechanical, pneumatic, hydraulic, electric and electronic equipment and systems



Get as "rough" as you want with truly concentric

Copperply® *wire!*

Even the most severe usages known cause no measurable deterioration of the copper coating on Copperply Wire. This is both field and laboratory proved!

Shown here, for example, are standard wrap test specimens. Despite this extreme bending, neither microscopic examination nor ferroxyl testing show any hint of coating fracture or porosity.

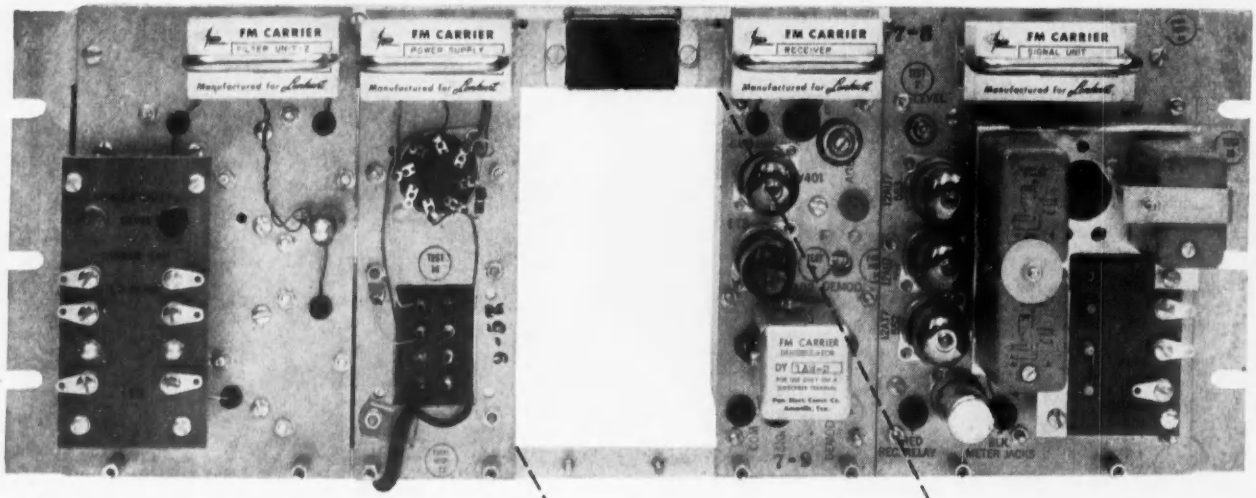
You may well ask why. For one thing, the National-Standard electroplating process provides a homogeneous, high density coating . . . and, regardless of wire size, the maximum variation in copper thickness is less than 1% of diameter!

Copperply wire, offering you unmatched uniformity and service life, is available in High Strength and Extra High Strength grades, either 30% or 40% conductivity, and in all standard sizes from No. 5 to No. 18 AWG, and on reels in continuous non-welded lengths up to 1000 pounds.

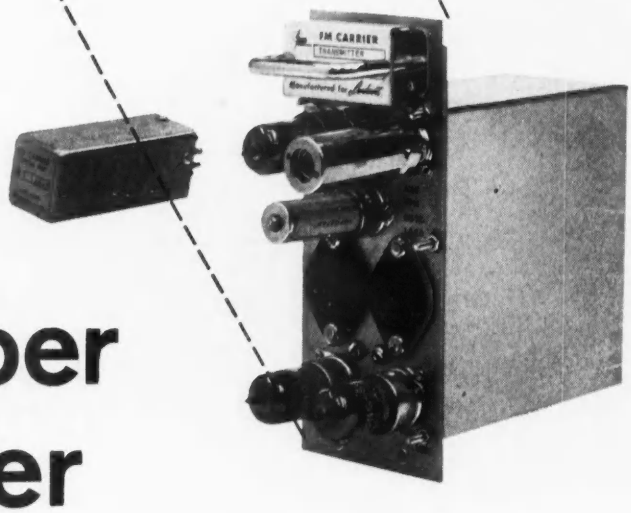
Write National-Standard, Niles, Michigan, for comprehensive Data Bulletin 202.

NATIONAL NS NATIONAL-STANDARD Company NILES, MICHIGAN **STANDARD**

DIVISIONS: NATIONAL-STANDARD, Niles, Mich.; *tire wire, stainless, music spring and plated wires, flat and tubular braid and wire cord*
WORCESTER WIRE WORKS, Worcester, Mass.; *music spring, stainless and plated wires, high and low carbon specialties* • **REYNOLDS WIRE, Dixon, Ill.**; *industrial wire cloth*
WAGNER LITHO MACHINERY, Secaucus, N. J.; *metal decorating equipment* • **ATHENIA STEEL, Clifton, N. J.**; *flat, high carbon spring steels*



FM Subscriber Line Carrier terminal with transmitter unit removed to show unitized construction with plug-in components. This "plug-in" concept simplifies trouble shooting and maintenance — avoids shutdowns.



FM Subscriber Line Carrier

The economical answer to your rural service problems!

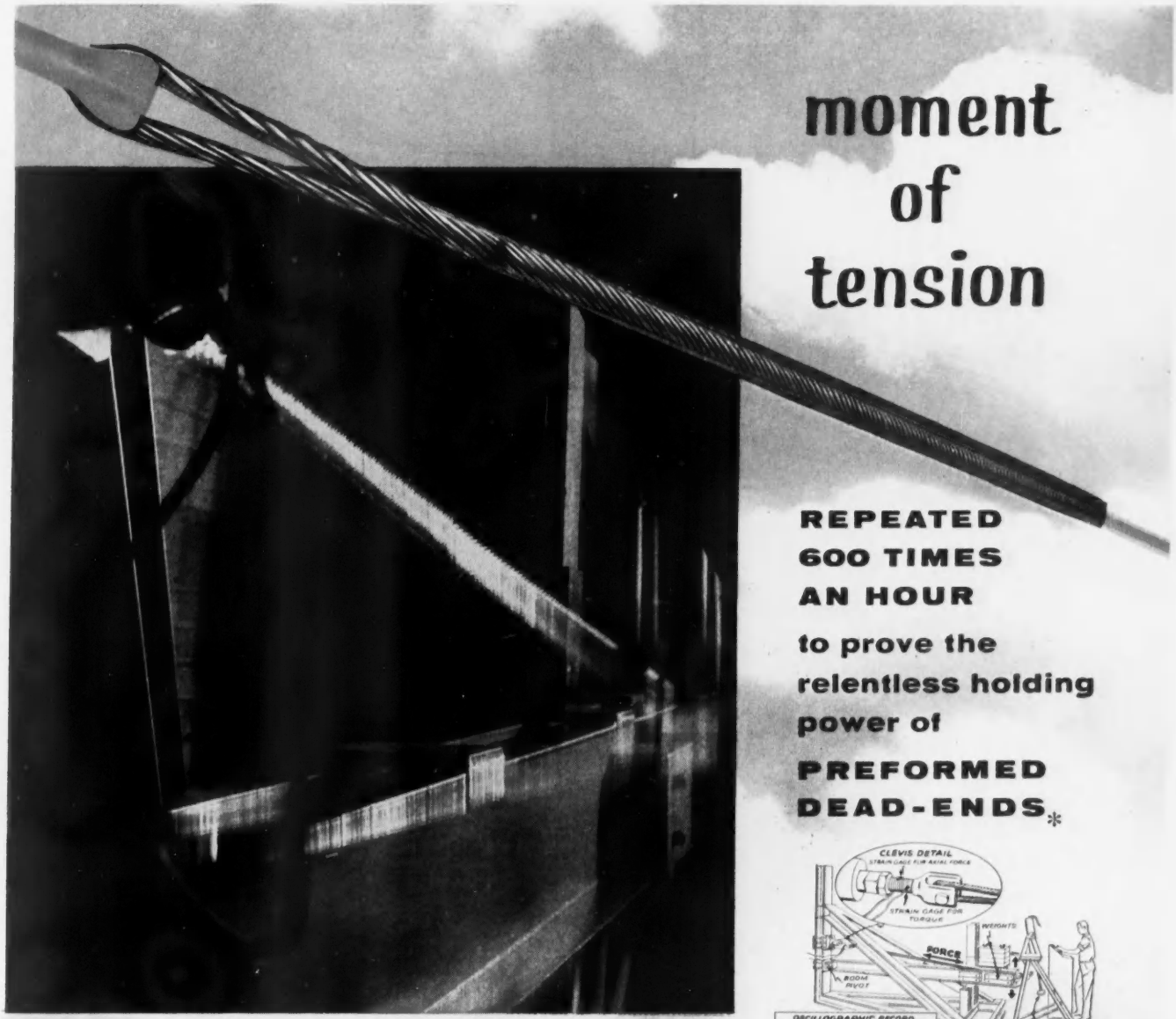
FM Subscriber Line Carrier provides a low-cost, versatile method of adding up to 10 multi-party subscriber circuits on an existing wire pair.

Operating frequencies are higher than with most conventional carrier equipment, thus permitting installation on the same circuit or pole-lead as existing carrier, with little or no problem of coordination. Hundreds of these systems now in use by leading telephone companies are proving the dependable, economical answer to improved rural service.

Lenkurt and Automatic Electric have teamed up to provide complete engineering, supply, and repair service for FM Subscriber Line Carrier equipment. If you would like more information, call your nearest Automatic Electric Representative — or write for illustrated literature.

AUTOMATIC ELECTRIC

Northlake, Illinois • Subsidiary of **GENERAL TELEPHONE**

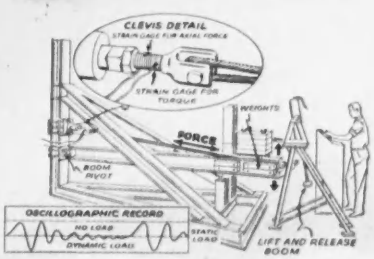


moment of tension

REPEATED 600 TIMES AN HOUR

to prove the relentless holding power of

PREFORMED DEAD-ENDS*



No. 2 of a series...

One of the most exacting responsibilities in development engineering is that of devising equipment which will closely simulate service conditions in a controlled laboratory environment. In the field of conductor and cable fittings, this poses a particularly complex and important problem. Ordinary down-guys, boom-pendant cables, bridge cables, and other similar installations encounter a rather complex combination of tension, torsion, impact, and vibration. These forces acting simultaneously represent a severe and unpredictable stress configuration which does not lend itself to experimentation using conventional test equipment. The cyclic impact machines at the Preformed Research and Engineering Laboratory were created by PLP engineers to gain a better understanding of the effects of these combined forces on cable fittings of all types.

The equipment incorporates a pivoted beam which is raised and dropped automatically by a system of pneumatic pistons and linkages to obtain desired static and dynamic loads in the attached test specimen. Resultant forces are continuously monitored during the load cycle with multi-gage strain cell instrumentation. Once programed, the machine is regulated to cycle continuously and automatically shut down when major physical changes occur in the test specimen.

This unique equipment makes possible one of many rugged test phases in a continuous program which correlates accelerated laboratory testing with field service experience to provide cable fittings of proven superiority.

Jon R. Ruhlman

Jon R. Ruhlman, Vice President
Research and Engineering

Research and Engineering... another reason why...

You can look up to **Preformed** T. M.

PREFORMED LINE PRODUCTS COMPANY • 5349 St. Clair Avenue, Cleveland 3, Ohio. Cable: Preformed-Cleveland... manufacturer of armor rods, dead-ends, Guy-Grip dead-ends and other line accessories.

* Made in accordance with or for use under Patent No. 2,761,273; other patents issued and pending.

Commands attention anywhere!

Kellogg Loud Ringing Bell

Compatible with All Circuits...Complete Alarm Penetration

A Kellogg Code 75 Loud Ringing Bell commands attention in any noisy or exposed location. This tried and proven attention-getter is compatible with all types of circuits—including high impedance ringers—without causing line unbalance.

The Code 75 Bell is ideal for factories, foundries, mills, taxi stands, school yards, docks, construction sites, police or fire alarms. Its rugged construction will withstand every adverse weather condition.

The entire unit is protected by an attractive rustproof and weatherproof cover and can be quickly mounted anywhere with only two mounting screws. Available in harmonic, synchromonic, decimonic ringing frequencies, or imposed straight-line ringers.

Ask your local Kellogg representative for complete information.

Kellogg Switchboard and Supply Company, 6650 South Cicero Ave., Chicago 38, Illinois. Communications Division of International Telephone and Telegraph Corporation.

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Gaffs and leg irons are forged high quality, medium carbon steel, heat treated to assure proper balance of hardness, toughness, ductility.

MSA®-Brooks Adjustable Hooks*—designed by a lineman for linemen

A climber's first consideration in a pair of hooks is just how safely, how comfortably do they anchor his feet in the pole. M-S-A–Brooks adjustable linemen's climbers give him the security he's looking for. And a lot more to boot.

Here's why. First off, these are the only climbers made with a tang extending from the gaff. This tang curves under the foot and for safety's sake fastens positively at both sides of the foot. No amount of climbing will work the gaffs loose from the leg iron. But *a man can unfasten them in a jiffy* for maintenance or replacement in the field.

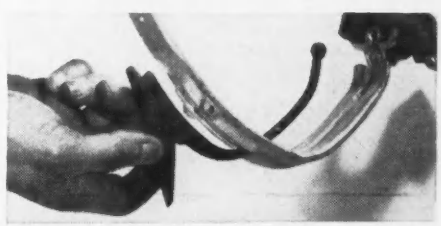
The shape and angle of these gaffs are also important. They prevent dangerous cut-outs—let a man climb without bowing his legs excessively. Moreover, both gaff and tang are forged in one continuous piece for *real* safety.

High quality medium carbon steel—specially selected because of its exceptional strength—enables these hooks to absorb plenty of punishment year in, year out. Exacting craftsmanship shapes the quality materials. Then there's austempering. Rockwell Hardness Tests. Rigid Magnaglo inspection process. And impact tests.

Comfort aspects receive their share of attention too. Leather pads and straps are safe, supple top grain steerhide. Reinforced chrome leather pads on the leg iron assure additional climbing comfort.

The MSA man has the entire story. Ask him for details. Or write us for helpful literature.

*Meets E.E.I. specifications.



Gaff and tang fit through slot in leg iron, are seated in channel of stirrup and locked in on both sides of the foot for utmost safety.

MINE SAFETY APPLIANCES COMPANY
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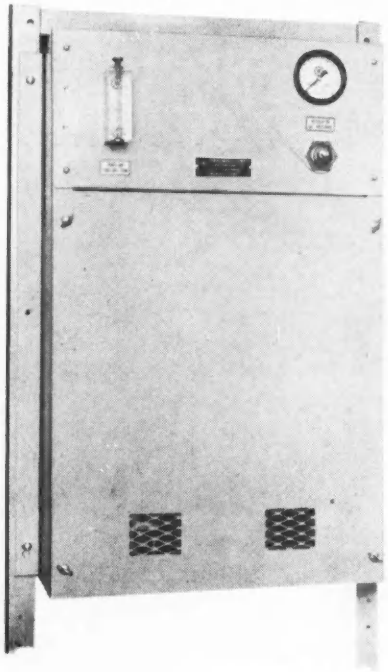
At your Service: 82 Branch Offices in the United States and Canada

MSA SAFETY EQUIPMENT HEADQUARTERS

NOW! from S&G MANUFACTURING CORP.

THE MODEL "R" DEHYDRATOR (AUTOMATIC)

for pressurizing aerial and underground telephone cables



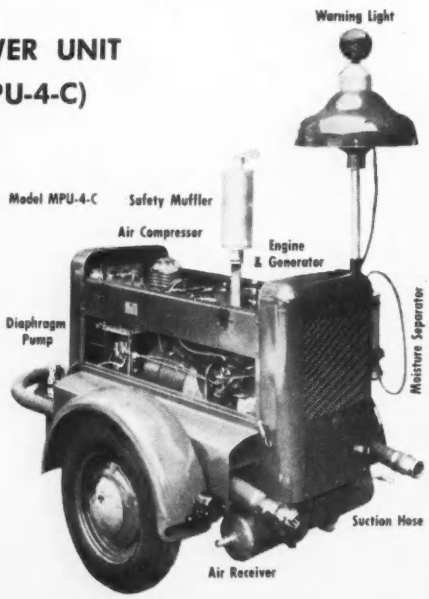
The Model "R" Dehydrator is designed to supply dry air to telephone cables. Among its many outstanding safety features are:

- Hi-Lo pressure switch for alarm
- Humistat for alarm above 4% R.H.
- Power failure relays and separate fustat
- By-Pass Valve & alarm for excessive R.H.
- Mechanical control valve for stand-by air supply (O.P.N.) in event of power failure
- Additional safety features on air compressor
- Power supply is 115 volt, AC on the Dehydrator and Air Compressor
- Power consumption — 2 AMPS

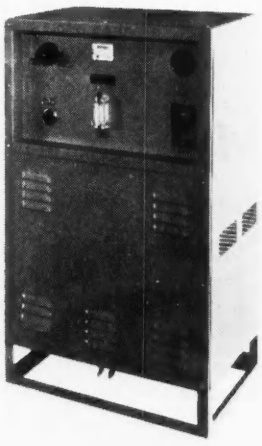
The Model "R" Dehydrator (Automatic) is designed for small installations of 80 miles or less of cable. It is a wall or relay rack-mounted type, approximately 24" high, 28" wide and 8" deep. Operating voltage is 115 volts, 1 phase, 60 cycle, and the output is 700 standard cubic feet per day maximum, with a dewpoint of -40°F. and power consumption of 2 AMPS.

MOBILE POWER UNIT (Model MPU-4-C)

- Generator (slow speed for quietness) 2500 Watt, 110- Volt DC
- Pump — 2800 GPH Diaphragm to remove seepage and drain back
- Air Compressor — to put cables under pressure for cutovers or repairs
- Furnished with or without pump and compressor



MODEL "A" Air Compressor Dehydrator



Exchange unit equipment designed to supply chemically dry air for telephone cables, aerial and underground, this unit can supply as many as 60 cables. It is equipped with volume recording air meter, high and low pressure alarm switches, humidstat and hour meter.

- Completely automatic in operation
- Air purifier to eliminate oil mist
- Incorporates the latest safety devices

phone or write

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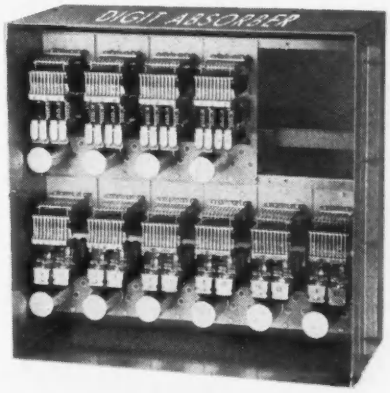
INVESTIGATE UNIVERSAL DIGIT ABSORBER*

FOR CONVERTING EXISTING SWITCHBOARDS INTO FULL 2-5 NUMBERING



Digit absorber case requires 17″ on a 19″ relay rack. Capacity 12 units.

Other ***UNIVERSAL*** Equipment:

COMPUTER INTERCEPT
Code-to-Selective RINGING CONVERTER
TRUNK DIGIT REGISTER

DIRECT DISTANCE DIALING REQUIRES A 2-5 CODE

Few dial switchboards of earlier design have provisions for adding digit absorbing features economically. The Universal Digit Absorber fills this need easily and at nominal cost. Installation requires very little time and does not interrupt service.

The ever-increasing requirements of Extended Scope Dialing on a universal numbering arrangement are easily handled by the Universal Digit Absorber. The Digit Absorber is a factory assembled, fully-wired, applique unit that can be connected to any existing dial switchboard to pad in three digits of exchange code (ABX) or four digits in the case of a three digit dial board.

There are two types of Universal Digit Absorbers, depending on the complexity of the exchange codes assigned:

19-S unit will handle exchange codes, as illustrated by AB-X, where the "X" digit is not a duplicate of the "A" or "B" digit.

19-L unit is required where the "X" digit is a repeat of either the "A" or "B" digit.

In addition, Universal offers a Trunk Digit Register which can be applied to "Trunk on Line" dial boards where five or more digits are required to be delivered to a 3 or a 4 digit tributary exchange. This unit also affords added link hunting time and safeguards against partial digit registration.

* Pat. Pend.

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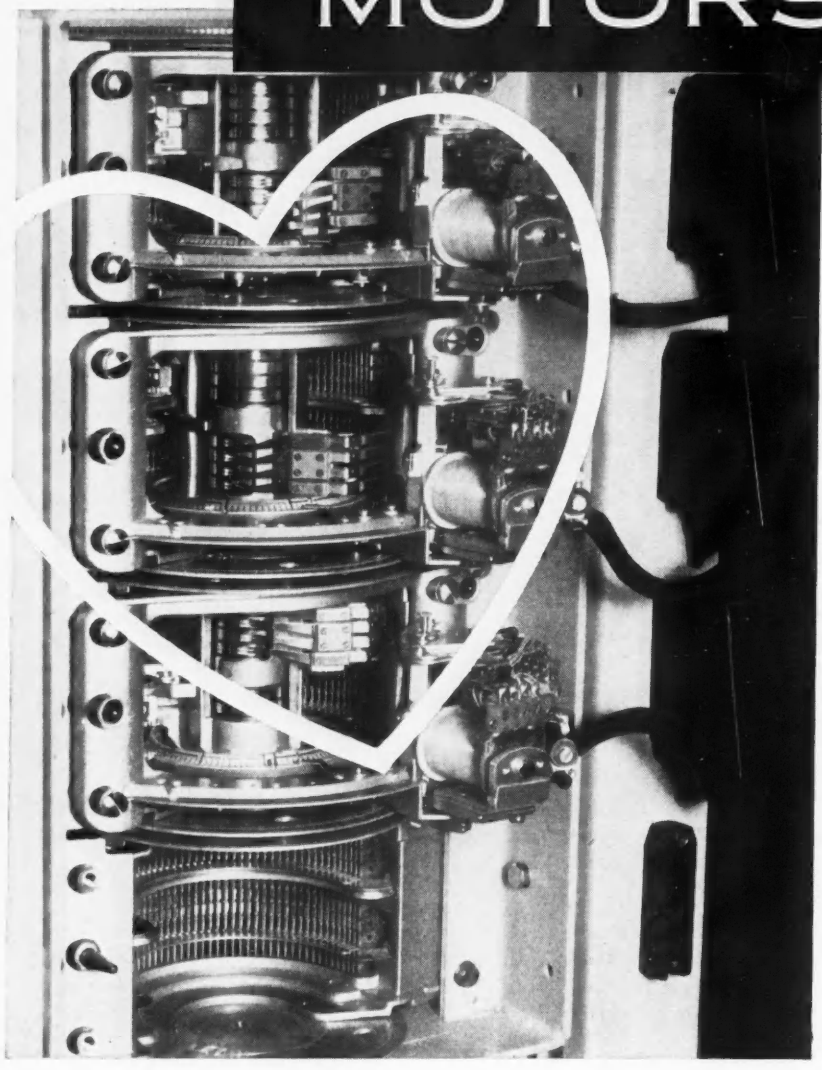

by USI

Heart of the Central Office Telephone Exchange

The Motorswitch has been proven in over a million lines of central office systems now in world-wide service . . . overwhelming evidence of its universal acceptance. Use of the USI Motorswitch enables central office systems to combine the speed and flexibility of common control systems with the simplicity of step-by-step systems.

HIGH STEPPING SPEED—Searches over a maximum of 360 contacts per second, compared to 30 to 40 on stepping switches.

NEGLIGIBLE VIBRATION—Is an advantageous result of the Motorswitch being electrically driven and electrically stopped. Microphonics are reduced and noise levels in equipment rooms are lowered by the absence of ratchet-driven parts.

PRECIOUS-METAL TWIN WIPER CONTACTS—In talking circuits provide lowest contact resistance and maximum reliability and are used throughout the Motorswitch construction.

SOLDERLESS BANK CONTACT STRIPS—Reduce the required number of soldered connections by 90% . . . increase reliability . . . simplify regrading . . . cut the need for grading and level hunting switches.

VERTICAL BANK CONTACTS—Shrug off wear-producing dust.

USI® CORP.

UNITED STATES INSTRUMENT CORPORATION

CHARLOTTESVILLE, VIRGINIA

EDITORIAL

"Off With The Old-On With The New"

JUST AS ANY good convention should do, the 61st Annual Convention of the United States Independent Telephone Association (USITA) paused a few times to *review the telephone industry's past accomplishments, look at the present, and then placed its emphasis on the future.*

This emphasis on the future started making itself known to the telephone men and women who attended the USITA convention at the Conrad Hilton Hotel, Chicago, on October 12-15, at the Conference for REA Borrowers on Sunday October 12, and it continued right through the conferences and general sessions to the closing announcements by the USITA president on Wednesday, October 15.

This all-out concern with the things that *will be* is all to the good. It speaks well for the Independent segment of the telephone industry for it indicates telephone men and women realize that although the past has been filled with accomplishment, the true measuring stick that will be applied to their work will concern itself with what they accomplish in the days to come.

There was much evidence of such belief at the recent USITA convention. For one, the exhibits proved today's telephone man is concerned with such things as *carrier, customer toll dialing facilities, automatic toll ticketing equipment,* and many other types of apparatus and equipment which promise to include new components and systems that will take the telephone industry far away from the systems of the past and present.

The Engineering Director of the General Telephone Service Corporation, Frank D. Reese, emphasized this fact when he told the USITA Engineering Conference: —

"*The telephone engineer's job is a never-ending one. He is responsible for determining how much and what kind of material should be purchased and when and where it should be placed. His creation is never quite complete. It is constantly being enlarged, improved upon and replaced. His creation is never quite complete.*"

Although Mr. Reese was directing his remarks at the industry's engineers the same thoughts were brought to the front by speakers addressing the General Sessions, and the Plant, Traffic, Accounting and Commercial conferences, giving evidence to the fact that all members of the telephone industry are concentrating their efforts and their abilities on long-range planning functions that will enable them to keep abreast of new developments in the telephone art which will offer improvements in service and further economy of operation.

Mr. Reese summed this up very well when he said," *this planning is not in the nature of pre-engineering the detail — rather it is making an orderly arrangement of the necessary major steps to clearly accomplish some clearly understood objectives. . . .*"

In those words, we believe Frank Reese properly summarized the aims and goals of the 61st annual Convention of the United States Independent Telephone Association.

To this reporter, it was plainly evident that the telephone industry members attending the meeting worked hard at *determining the exact nature of the future, foreseeing the problems, formulating plans on a long-range basis, and making an orderly arrangement of the steps necessary to accomplish their objectives.*

In our opinion that is exactly the kind of convention the Independents held October 12-15. The 'goodby's' to old systems and old methods were few and short. The "hello's" to the new were loud and long.

And that is exactly as it should have been for we feel sure that as long as the telephone men and women of this country feel it is the future that really counts, the industry will move ahead toward new peaks of service accomplishment that will far surpass the accomplishments of the past and present.

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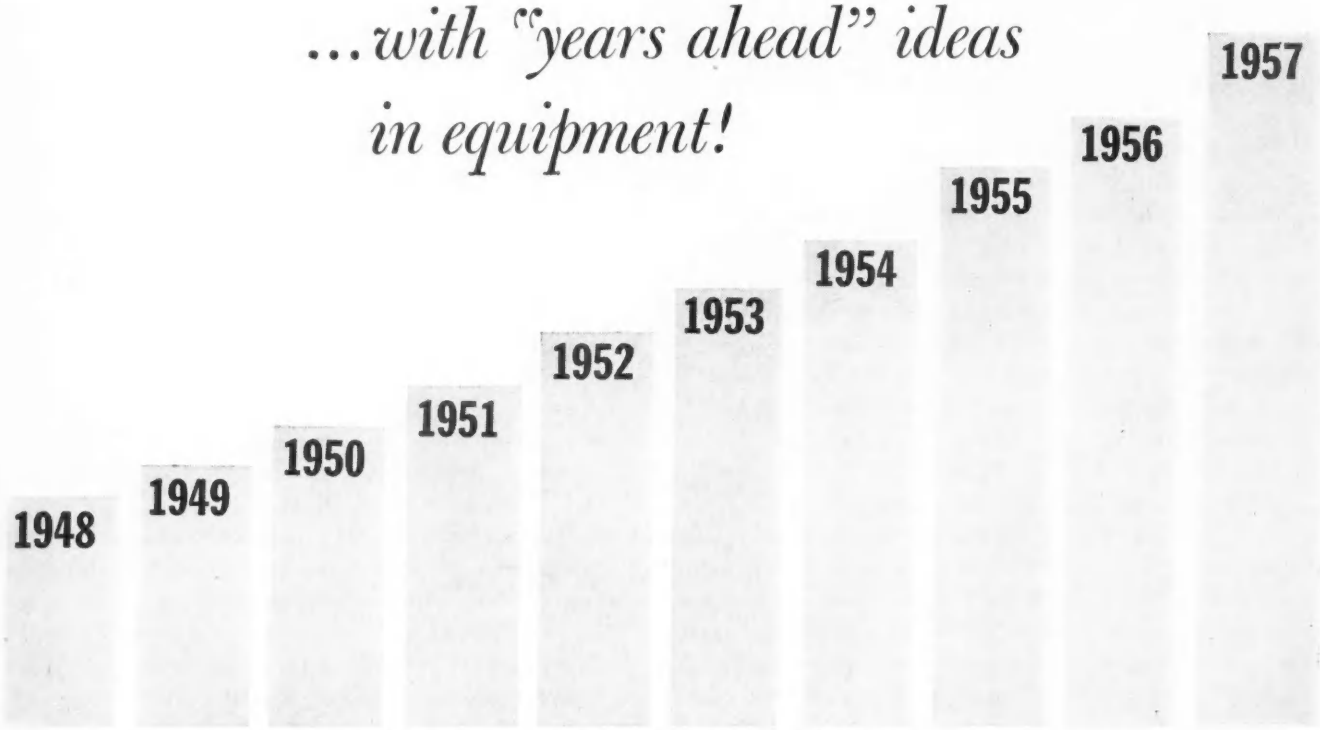
ITT IS READY FOR INDEPENDENT TELEPHONY'S YEARS AHEAD

...with "years ahead" ideas in equipment!



Total Operating Revenues for the Independent Telephone Industry—taken from USITA 1958 Annual Statistical Volume.

The American economy is growing—and the demand for telephone service is growing with it. In the past decade, Independent Telephony's total operating revenues have steadily increased from $253,000,000 to over $722,000,000 annually.

At the present rate of growth, think what the service demands will be in the busy years ahead!

International Telephone and Telegraph Corporation, through Kellogg Switchboard and Supply Company, its domestic manufacturing division, and other divisions and associates of the world-wide ITT system, is continually applying its vast research facilities to the ever-widening needs of telephony . . . for easier expansion, greater efficiency, lower-cost maintenance, and more profitable operation.

ITT is ready *now* for Independent Telephony's years ahead . . . with new ideas in systems, equipments, and components . . . featuring transistorization . . . printed circuitry . . . miniaturized subassemblies . . . improved plug-in construction and standby power sources . . . all designed to provide better service, save valuable space, and reduce costs.

Creative telephone research is a never-ceasing program at ITT laboratories, both here and abroad . . . endlessly engaging the skills and experience of thousands of ITT engineering, development, manufacturing, installation, and operating specialists.

These unique resources—with ITT's world-wide background in telephone system operation—present to the Independent Telephone Industry one of its finest opportunities to perpetuate and enhance its long-established record for dependable, high-quality service . . . to keep its vital communications facilities well ahead of the needs of its subscribers.

SINCE 1897—Kellogg Switchboard and Supply Company and the Independent Telephone Industry have grown up together . . . mutually contributing their best efforts to maintaining the industry's leadership in public communications . . . to the opening of new horizons in service standards.

As it has for more than sixty years, Kellogg will continue to meet the requirements of the industry . . . backed by the facilities and capabilities of ITT laboratories . . . in research and in the engineering and production of systems, equipments, components, and hardware of the highest quality and operational reliability.

ITT

. . . the largest American-owned world-wide electronic and telecommunication enterprise, with 80 research and manufacturing units, 14 operating companies and 128,000 employees.

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AND MANUFACTURING PLANTS IN 20 FREE-WORLD COUNTRIES

DON'T GET ME WRONG...I STILL DON'T LIKE STORMS

**"But they don't seem to hit us so hard any more.
Not since polyethylene coated wire came along."**

The lineman's boss also gives polyethylene credit for reducing outages during storms. This tough plastic forms a continuous shield that resists moisture, weathering and aging. It protects the conductor from contact with wind-whipped branches and wires, prevents short circuiting by chance electrical contacts.

Protection is long-lasting. Early installations have shown no deterioration after 11 years exposure to all sorts of weather. And accelerated aging tests point to an expected life as great as 40 years.

In winter, polyethylene coated wire stands up better than other types because it is lighter, has a smaller diameter. It offers less resistance to wind and ice . . . supports a greater weight of ice without breaking.

Easier Installation, too . . .

Polyethylene is easy to handle because it's clean . . . self-lubricating . . . readily stripped. Yet it adheres well, doesn't ruffle when pulled.

Here are some of the applications where polyethylene is giving outstanding service:

- Line wire covering
- Communication cable insulation and sheaths
- Power cable dielectric
- Tree wire covering
- GTO (Neon Sign) Cable
- WD-1 Infantry Field Wire
- Control cable insulation and jacket
- Corrosion protection for metal sheaths
- TV Lead Wire

But all polyethylenes aren't the same. Ask your supplier about the superior weather and stress-crack resistance of coatings made with PETROTHENE® polyethylene resins. You pay no more for PETROTHENE quality.

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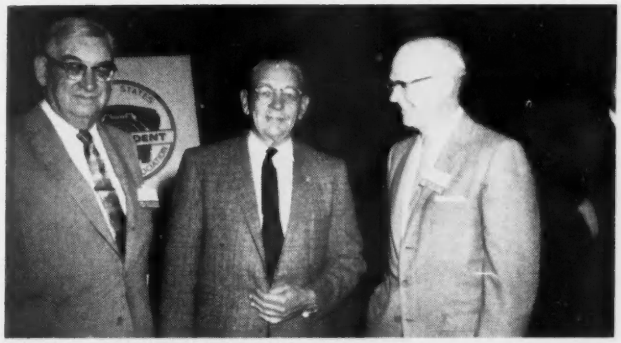
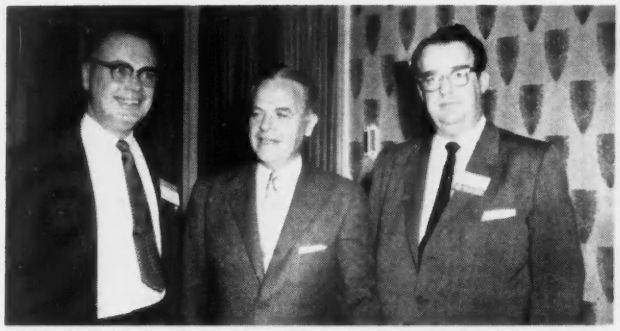


Members of this USITA Convention group are (l. to r.): D. O. HOOD, Medford, Ore.; L. D. DENSMORE, Lincoln, Neb.; USITA Pres. CLIVE W. HAAS, Big Timber, Mont.

A. L. FALK (left), Dept. of Commerce, Washington, D. C., and associate WM. HATTON (right) meet with DONALD H. CAMPBELL (center), Rochester, N. Y.



BILL MILLER (left), Des Moines, Ia., newly-elected pres. of the Independent Telephone Pioneer Assoc., CLYDE S. BAILEY (center) USITA executive vice pres., and DOUGLAS GLEASON, sec. of the Kansas Telephone Assoc., Topeka, Kans.

USITA Nominating Committee with USITA Pres., CLIVE W. HAAS (center). Left to Right are: WILLARD WADE, Victorville, Calif.; L. D. DENSMORE, Lincoln, Neb.; MR. HAAS; FRANK LAPRADE, Martinsville, Va.; and E. H. DANNER, San Angelo, Texas.

USITA HOLDS 61st ANNUAL CONVENTION

By JOHN G. REYNOLDS

MANAGERS and supervisory personnel of 4,113 Independent (non-Bell) telephone companies, serving nearly 10 million telephones in 11,000 communities in the United States, its possessions and territories, moved into Chicago for the 61st annual convention of the United States Independent Telephone Association and approximately 3,300 men and women registered for the 4-day meeting, October 12-13-14-15, at the Conrad Hilton Hotel.

Featured speakers at the sessions included Hanson W. Baldwin, military editor of the *New York Times;* Dr. M. Graham Clark, president, School of the Ozarks, Point Lookout, Mo.; David A. Hamil, REA Administrator, Washington, D. C.; and USITA President, Clive W. Haas, Big Timber, Mont.

Features included two General Sessions addressed by outstanding speakers, an entertainment session sponsored by the Independent Telephone Pioneer Association, the annual USITA banquet and dance, two floors of exhibits of equipment and supplies, plus six technical conferences — *Accounting, Commercial, Engineering, Plant, REA Borrowers,* and *Traffic.*

From the opening conference for REA-Financed Companies on Sunday, October 12, to the closing General Session on Wednesday, October 15, each part of the program followed the over-all theme of the convention—"Independent Telephony Meets The Challenge of an Expanding Economy."

USITA President Clive W. Haas emphasized the convention theme at the first general session on October 13 when he told the convention — "Although it may still be true that nothing is certain except death and taxes, we do have definite patterns by which to chart our course."

"One thing we know for sure is that this country is going to grow and that the population is going to increase rapidly in practically every area," President Haas said. "This, we know, will create demands for more and better telephone service. So we can start to get ready for substantial station gains without any hesitation

REGINALD C. SMITH (left) Albion, Mich.; RUSS SCHAFER (center) Pinconning, Mich., new USITA director; and DON K. CARLSON, Morenci, Mich.

Members of this USITA Convention group are (l. to r.): KEITH W. VOGT, St. Paul, Minn., MRS. ELDON ECKLES and MR. ECKLES, Blue Earth, Minn.

whatever. If the prophets — and particularly those engaged in prognosticating population increases — are correct, the Independent telephone industry may be serving some 11 million telephones by the end of 1960, and we may have in operation some 25 million telephones by 1975, because the figures point up the startling possibility that the number of telephones we have in 1960 will more than double during the subsequent 15 years."

The report of USITA Executive Vice President Clyde S. Bailey also emphasized that "Although the Independent industry has made significant strides over the years, there are many who believe that the brightest era and largest opportunities lie ahead."

"There seems to be no let up in the demand for telephone service," Mr. Bailey's report stated. "The population of the country is now about 173 million. It is estimated that by 1980, just a little more than 20 years away, there will be 77 million more people . . ."

Pointing out that the Independent telephone industry along with other industries "will profit from all of this," Mr. Bailey's report said, the prospect could well be called "Opportunity Unlimited."

"The circumstances point to many things for our industry," the report stated. "Among them is the necessity for improved recruitment procedures and means of attracting new employes to our business in competitive labor markets. More employes must be trained for technical assignments and executive, management, and supervisory positions. Investors must be wooed more than ever to enable plant additions to be made and expansion and improvement of service to go forward. Every advantage must be taken of advances in the communications art. Regulatory commissions must continue to demonstrate a realistic attitude in dealing with necessary rate adjustments so that a favorable investor climate in our business may be maintained. . . ."

New Officers & Directors

INDUSTRY members elected to three-year terms on the USITA board of directors are: Harold G. Payne, Export, Pa.; R. E. Rudolph, Ellensburg, Wash.; K. L. Schroeder, Freeport, Ill.; H. M. Stewart, Cornelia, Ga.; Ralph F. Lucier, Warsaw, Ind.; and H. W. Vaughan, Fayette, Ala. They succeed W. P. Hollis, Chicago, Ill.; Ray Dalton, Everett, Wash.; L. H. Meyer, Fort Wayne, Ind.; Donald C. Power, New York City; R. C. Tait, Rochester, N. Y.; and W. G. Wright, New York City.

R. J. Schafer, Pinconning, Mich.; Elnathan Gates, Minneapolis, Minn.; and P. A. Nenzel, Los Angeles, Calif., were elected to one-year trems on the USITA board to fill vacancies caused by the resignations of Hans Y. Kraepelien, Santa Monica, Calif., and Leslie H. Warner, New York City, and the death of S. A. Lane, Russellville, Ark.

Directors re-elected to three-year terms are: J. Ballard Atherton, Honolulu, Hawaii; E. G. Bellamy, Knoxville, Ia.; Carl D. Brorein, Tampa, Fla.; H. E. Hagenian, Lorain, Ohio; A. L. Hart, Kansas City, Mo.; and C. C. Pearce, Riceville, Ia.

At the organization meeting, the directors named Hugh A. Barnhart, president. Barnhart, who is president of the Rochester (Ind.) Telephone Co., succeeded Clive W. Haas of Big Timber, Mont.

Other elected officers are: 1st Vice President, Foster B. McHenry, Jefferson City, Mo.; 2nd Vice President C. C. Pearce, Riceville, Ia.; 3rd Vice President, Kelley McNish, Bristol, Tenn.; Executive Vice President, Clyde S. Bailey, Washington, D. C.; Treasurer, Carl D. Brorein, Tampa, Fla.; Secretary, George C. Richert, Washington, D. C.; and Assistant Secretary, Courtney S. Snyder, Washington, D. C.

New Members of the USITA Executive Committee are: Foster B. McHenry, Jefferson City, Mo.; Merle M. Hale, Lincoln, Neb.; C. C. Pearce, Riceville, Ia.; and R. A. Lumpkin, Mattoon, Ill. They succeed L. A. Densmore, Lincoln, Neb.; Ray Dalton, Everett, Wash.; William C. Henry, Bellevue, Ohio; and R. C. Tait, Rochester, N. Y.

Pioneers Elect Miller President

THE ANNUAL meeting of the Independent Telephone Pioneer Association (ITPA) was held in the Grand Ballroom of the Conrad Hilton Hotel, Chicago, October 14.

President R. N. Cole, Marion, Ohio, presided at the ITPA business session.

Directors elected to three-year terms on the ITPA board are: Douglas S. Guild, Honolulu, T. H.; Berney Simner, St. Louis, Mo.; and Fred H. MacGougan, Monrovia, Calif.

Other directors serving unexpired terms are: George Hamburger, Washington, D. C.; Miss E. M. Hiestand, Madison, Wis.; William F. Miller, Des Moines, Ia.; Ray J. Alter, Galesburg, Ill.; George A. Hearne, Kansas City, Mo.; and Kenneth L. Lawson, Lincoln, Neb.

William F. Miller, president of the Iowa Independent Telephone Association, was elected ITPA president. Other ITPA officers are: Vice President, Miss E. M. Hiestand, Madison, Wis.; Vice President, Geo. A. Hearne, Kansas City, Mo.; Executive Secretary and Treasurer, Mayme Workman, Springfield, Ill.

Newly elected members of the ITPA Advisory Committee are: Paul R. Parsons, Rhinelander, Wis.; Ernest R. Hood, Portland, Ore.; T. P. Roberts, Creston, Ia.; Paul H. Lyday, Charlottesville, Va.; W. P. Stokesberry, Washington, D. C.; John E. Sexton, Bristol, Tenn.; D. A. Kafka, Tampa, Fla.; Walter F. Wehner, Hamden, Conn.; Elsie I. Mitchell, Franklin, Ind.; Dee Adams, Abilene, Kans.; Fred H. MacGougan, Monrovia, Calif.; J. F. Allen, Webster Groves, Mo.; Donald F. Anderson, Geneseo, Ill.; Walter A. Steuer, Dayton, Ohio.

REA Borrower's Conference

THE REA Borrower's Conference, which started the convention activities on Sunday, October 12, also placed its emphasis on meeting the challenges of the future. The meeting attracted a large group of the Independent conventioners and was regarded by many as one of the high spots of the USITA meeting.

W. G. Winters, chairman of the REA Borrowers' Committee, presided at the meeting and introduced USITA President Clive W. Haas who welcomed the conventioners to the conference and described the first USITA REA Borrowers' conference as "a proud and historical moment" and expressed his hope that the first conference would set the pattern for similar conferences at each USITA convention.

After presenting the report of the REA Borrowers' Committee, Chairman Winters introduced the conference speakers: Colonel William C. Henry, chairman of the USITA Committee on Problems of Small Companies and president of the Northern Ohio Telephone Co., Bellevue, Ohio, and E. C. Weitzell, chief, Telephone Operations & Loans Division, REA, Washington, D. C.

"We Are All Part Of A Great Industry"

COLONEL Wm. C. Henry, president, Northern Ohio Telephone Co., Bellevue, Ohio, and chairman of the USITA Committee on Problems of Small Companies, told the conference that in the nine years that have elapsed since Congress empowered REA to make loans for telephone purposes, $195,396,015 has been lent to the various kinds of telephone borrowers declared eligible by enacted law. The number of borrowers today is 619.

"This large sum of money," he said, "affords eloquent evidence that there was in fact in the judgment of

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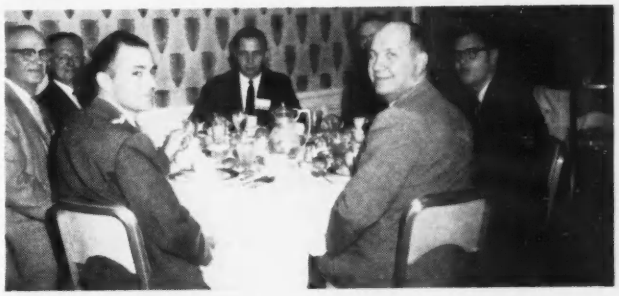


Group photos shown above were taken during USITA Convention meeting of State Association Secretaries.

LESLIE A. GRITTEN (left), Everett, Wash.; COURTNEY S. SNYDER (center), USITA Assistant Sec., Washington, D. C.; and HUGH STRAUGHAN, Oklahoma City.

Members of this USITA Convention group are (l. to r.): KEITH VOGT, St. Paul, Minn.; USITA Pres. CLIVE W. HAAS, Big Timber, Mont.; and JACK HARDY, Springfield, Ill.

Independent Telephony Marches On

By CLIVE W. HAAS*

Pres., U. S. Independent Tel. Assoc.

SINCE you elected me your president here a year ago, I have had many nice things happen to me. But this occasion is, I think, the nicest of all. To be given the opportunity to stand here on this platform, to be able to look into the face of so many key people in the ranks of Independent telephony, and officially to welcome you to this, the 61st annual convention of the United States Independent Telephone Association, is a great and happy privilege. The memory of it will stay with me for a long, long time.

This has been a great year for Independent telephony and, if you will pardon a personal reference, this has been a great year for Clive Haas. It has, in fact, been the greatest year of my life.

As your President, I have traveled far and wide. I have attended a number of state telephone association conventions. At them, I have heard our problems analyzed by expert telephone men. I have heard these same men tell us what to expect in the future and how to prepare for it. I learned a lot about the problems of the telephone business that I never knew before

This afternoon, I want to look back for just a moment. In recent years and particularly during the past year, we have read and heard much about rocketry and the space age and how near we are to meeting up with the man in the moon. This is something I've wanted to do since I was a child, but now that the time approaches I'm not so sure. If any of you want my place in the first space ship, I will gladly relinquish it, provided it has not already been reserved by an enterprising newspaper editor in my state who is conducting a "First-Man-into-Space" contest. He has asked his readers to nominate persons they would most like to have shot into orbit. One man nominated his boss, another pro-

**Mr. Haas presented this paper at the 1958 USITA convention.*

posed his mother-in-law. And a third man volunteered to make the trip provided he could take along Brigitte Bardot! It is becoming painfully obvious that this first ship into space is going to be overloaded.

I became actively engaged in the telephone business just prior to the 30's. It is with some nostalgia that I recall those days, which were uncomplicated by sputniks, hydrogen bombs, subliminal advertising, and purple people eaters. True, there was a depression. It was a real one, and it lingered on through eight full years of frantic planning and pump-priming. But even so, the 30's were relatively good years in which to live.

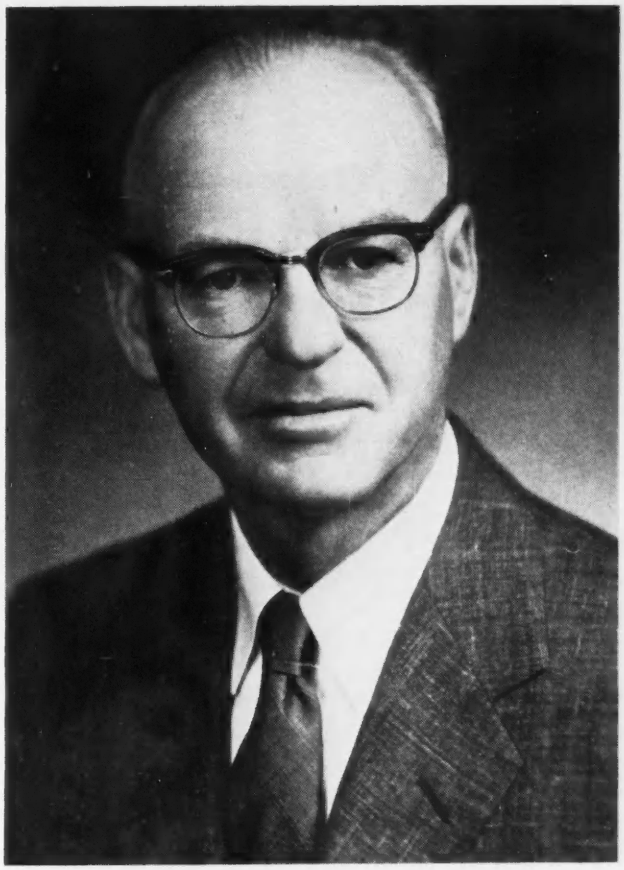
We have come through two wars beyond the 1930's. We have witnessed a host of scientific breakthroughs which finally have provided man with the means of destroying himself and his world, or of opening exciting new frontiers undreamed of two decades ago

The question of survival is, of course, basic. But life is more than mere survival. If we survive, how shall we live? And how shall we conduct our business? These, I think, are the paramount questions that we want to consider here today.

Pleasant prosperity for almost everyone by 1982 is the happy prediction of today's experts in many fields of business and science as they scan their statistical charts and progress reports through definitely rose-colored glasses. They say an easier way of life is coming filled with more leisure, more pleasure. Living standards will be higher. Though inflation is expected to continue, buying power will double. And though the truly rich are expected to increase in number, there'll be an even greater increase in the number of middle-income families. There will be many new job opportunities coming up, following the trend which has nearly doubled employment in the telephone industry during the last 15 years and has created many new types of telephone work.

However, it will not be all work and no play. For, we are told, a big boom in recreation and travel is coming within the next 25 years. And things are going to be different in other ways. Many products now standard will have fallen by the wayside of competition, while others now only dreams will be pouring out to the buyer in a flood, because businesses of all kinds, including the telephone business, are now spending billions of dollars on research to develop new and better products. Fabulous gadgets for the home are in the offing. Predicted to come are stoves to cook in a flash without heat, windows that raise and lower themselves, house cleaning by button-pushing, foods preserved indefinitely by irradiation, home air conditioning as standard as home heating is today, washers that clean clothes with sound — and everything automatic.

And what about the automobile? Lower, faster, smaller they will be — and twice as many of them in the 1980's as there are today. The suburbs will double in size, and we are going to be healthier, too! Cancer will be licked, heart ailments curbed, and there will be more help available for mental illness. Many diseases will be completely cured. Our life spans will be substantially



CLIVE W. HAAS, 1958 USITA president.

longer, and there will be remarkable advances in geriatrics, the science which makes life better for the senior citizens — which is what most of us in this room will be by that time.

How Will Our Business Be Affected?

SOUNDS GOOD, doesn't it? And the next question that naturally arises is: How is all of this going to affect this remarkable, romantic and exciting business in which you and I engage ourselves? I wish I knew for sure. If I did, I would set myself up as a consultant and charge you all a fat fee instead of giving you a lot of free advice as I am doing here today.

Although it may still be true that nothing is certain except death and taxes, we do have definite patterns by which to chart our course. One thing we know for sure is that this country is going to grow and that the population is going to increase rapidly in practically every area. This, we know, will create demands for more and better telephone service. So we can start to get ready for substantial station gains without any hesitation whatever.

If the prophets — and particularly those engaged in prognosticating population increases — are correct, the Independent telephone industry may be serving some 11 million telephones by the end of 1960, and we may have in operation some 25 million telephones by 1975, because the figures point up the startling possibility that the number of telephones we have in 1960 will

"A Look At The Future"

By CLYDE S. BAILEY *

Executive Vice President
U. S. Independent Tel. Assoc.

CLYDE S. BAILEY,
USITA exec. vice pres.

BEFORE closing this report I would like to mention, in language I used several years ago, some of the things that must engage our attention in the period that lies ahead:

(1) We must continue as a cohesive, coordinated industry when common problems arise so that by concerted effort, a pulling together, combined wisdom and strength may be brought to bear in providing satisfactory solutions.

(2) We must not lose sight of the fact that into the hands of telephone management have been entrusted the savings of the investor and that our position of trusteeship calls for never-ending vigilance to see that the interests of the one indispensable man in a free economy receive adequate recognition.

(3) We must open up more and more avenues of financing so that ever increasing demands for telephone service may be met.

(4) We must take advantage of the most advanced means of improving and extending our service, acting with boldness in accepting new technologies.

(5) We must be careful to train men and women to take their place in the management, supervisory, technical and other branches of our business.

(6) We must continue to be diligent on the legislative front in order to make certain on the one hand that harmful legislation is defeated and on the other hand that meritorious legislation may have a chance of enactment.

(7) We must continue to be alert to detect regulatory and other governmental trends in order to be in a position to support the good and call attention to the bad.

(8) We must continue to conduct an aggressive merchandising campaign, bearing in mind that so far the industry has barely touched the surface of American use of the telephone notwithstanding the greatest saturation in the world.

(9) We must ever remember that we are engaged not only in an essential calling but one impressed with a public use and hence subject to the high standards of public regulation.

(10) We must continue to provide dynamic and enlightened leadership so that as an industry we may acquit the public service obligations resting upon us. — (*Adapted from Mr. Bailey's report to the 61st USITA convention.*)

more than double during the subsequent 15 years.

With the diffusion of this population over the entire land area of the country, particularly in the suburban and rural localities where so many of our companies are located, and with the possibilities of increased usage of telephone equipment promoted by aggressive sales and merchandising efforts, the future of the Independent telephone industry would seem to be very bright indeed.

However, a quick look at some of the problems we face in meeting this tide of progress is a sobering one, and it emphasizes the fact that we cannot afford to be smugly complacent about the job that confronts us.

The Telephone Business Is Changing

WHAT ARE some of these problems? Well, to begin with, most of us realize by now that we are face to face with a very important fact, and that is this: the very nature of our business has greatly changed and will continue to change.

Our business used to be concerned entirely with voice transmission. Now we are becoming a universal communications system, providing data by electrical wizardry. These facilities include teletypewriter service, facsimile service, telemetering service, television channels, radio channels, picture transmission and all other forms of private line services.

Engineers tell us that within the next 15 or 20 years a substantial proportion of telephones, particularly business telephones, will be equipped with visual adjuncts. The engineers also are experimenting to make closed circuit television, data processing facilities, and other electronic inventions available and economically attractive for short distances.

In the not too distant future, some of our companies will be trying out a completely new all-electronic switching system. Using transistors, this switching system is actually an electronic computer. Like other computers, it contains memory devices. Like other computers, it can be "programmed" — that is, you put into it the kind of memory you want to have.

One of the really exciting things about electronic switching is that altering the system's memory is relatively simple. In other words, it can be easily arranged to provide different tailor-made services for different users. The programs are contained in little photographic memory plates about an inch and a half square. Believe it or not, this little plate can store 250,000 "bits" of information and can direct a lot of switching circuits.

Engineers have told me some of the probable uses that may develop as electronic switching moves out of the laboratory and into regular service. They seem fantastic, but I am reliably informed they are to be taken seriously.

Time — or lack of it — precludes me from detailing them here today. But, the important point is that these new systems will have a flexibility and versatility far beyond that of existing switching apparatus. The great attractiveness of the new electronic technique is that it

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USITA President Elect HUGH BARNHART (left), Rochester, Ind., is congratulated by outgoing USITA President, CLIVE W. HAAS, Big Timber, Mont.

REA AND THE EXPANDING RURAL MARKET

By DAVID A. HAMIL*

"The rural telephone market is getting bigger with each passing year. More industries and businesses are developing in rural areas. More town and city people are switching to rural living . . . These facts point to a big and growing market for quality telephone service in rural areas.

IN DISCUSSING the future of rural telephony, there are two facts that we might keep in mind. First, the American farmer is willing to pay for modern telephone service. This is no longer conjecture. It has been proven in one area after another where up-to-date service has been made available to farm families.

In today's farming and ranching operations, a modern telephone is a practical business investment, for a farmer is not much more self-sufficient than his neighbor in the city. He has to buy farm equipment and parts to keep it running; he buys seed and fertilizer and insecticide; he buys clothes and shoes and fuel. From time to time, he requires the services of a physician or veterinarian or attorney or banker. Unless he has a telephone, he is in a real fix. He certainly doesn't have time to run into town in the pick-up every time he has to talk with somebody.

If it came to a debate on the question, I would argue that a telephone is even more of a necessity on the farm than it is in the city. A farmer who faces an emergency usually isn't within shouting distance of a neighbor.

Rural telephone service is no longer limited to farm service, of course. A growing number of non-farm people now live in rural areas. Many of them moved to the country from the city, where they grew accustomed to dial service. These people do not have to be sold when dial service comes to rural areas. In addition, there are a substantial number of business enterprises in rural areas today. Needless to say, they have to have telephones.

Rural people will pay for modern telephone service. That is fact number one. Fact number two is that the rural telephone market is getting bigger with each passing year. More industries and businesses are developing in rural areas. More town and city people are switching to rural living. The population of our country is growing at the rate of about 3 million people a year, and a

**REA Administrator Hamil made these remarks at the recent USITA Convention.*

large number of these people are going to live and work in rural America.

These two facts point to a big and growing market for quality telephone service in rural areas. How to meet this demand, quickly and efficiently, is a matter of continuous concern to all of us in REA, but the Government's role in this task is limited. It is the business of industry to serve this rural market; it is the business of REA to help the industry.

I am sympathetic with many of the difficulties which you face in trying to meet this market. I am aware that the cost of obtaining materials and providing service keeps going up. New developments in equipment and methods mean better trained personnel — and that is an additional expense. But I am also sympathetic with the predicament of rural families who are without service or whose service is inadequate.

REA has one very important concern when it makes a loan to expand or improve service, and that is the security of the loan. We must satisfy ourselves that the loan is feasible before we approve it.

After a loan is approved, our chief interest in a borrower continues to be the security of the loan, and our best loan security, of course, is a well managed business. In all of our dealings with borrowers we recognize that each is an independent business enterprise. I assure you that we have neither the staff nor the desire to manage a telephone company or cooperative. REA is primarily a banking institution; it expects its borrowers to look after their own affairs. Of course, where help is needed and requested, we are glad to provide it.

The best way to find out how REA operates is to ask the management of one of our borrowers. I think they will assure you that we are no more meddlesome than any other group of bankers.

"A Nationwide Program"

IT IS from this point of view that I would like to tell you about the progress made to date under the rural telephone program. The first loan was approved in February 1950. By the end of September 1958, about half a billion dollars in REA loans had been approved to 625 telephone borrowers — 417 commercial companies and 208 cooperatives. These loans will enable the borrowers to construct 286,000 miles of line, to provide new or improved service to more than one million farmers and other rural subscribers through more than 2,000 exchanges.

This is truly a nationwide program. REA telephone borrowers are located in 44 States and Alaska. They had, by the end of fiscal year 1958, completed construction of 144,556 miles of line. They were providing new or improved service to more than half a million subscribers and they had placed 1,635 dial exchanges in operation.

Telephone loans reached their highest level during the last fiscal year, when loans totaling $89.2 million were approved to 204 individual telephone borrowers. Of this number, 66 were new borrowers.

The record of our borrowers in meeting their loan obligations is good, and I am satisfied that it will continue to improve. Currently, 14 borrowers are in arrears a total of $369,000. Compare this with 21 borrowers in arrears $513,000 a year ago, and you can understand why I am confident of the growing financial strength of the telephone organizations using REA's long-term financing.

Much of the great strength and wide public acceptance of both the REA electric program and the telephone program stems from the fact, I think, that they have been administered in a businesslike basis through the years. In the past, we have been able to turn criticism to understanding with reason and facts. I hope we will always be able to do that.

USITA President Elect HUGH BARNHART (left), Rochester, Ind., discusses convention with NEIL HASBROOK (center), San Francisco, and GEORGE SCHUMACHER, Indianapolis.

We work closely with our borrowers and with manufacturers in the development of new equipment and techniques designed to help telephone systems reduce the cost of outside plant construction and maintenance, and at the same time, help them to provide and maintain adequate service in rural areas.

During the recent years, these engineering advances have included the adoption of specifications for fully color-coded cable, the development of new wire and cable designs which have made buried plant feasible, and the development of insulated wire plant for long-span construction.

In the technical training field, REA has been working closely with its borrowers and their consultants. Recently, we have held workshop sessions on sales, budget, personnel and management activities. We have held seminars for borrowers' personnel and consulting engineers on a wide variety of subjects, including buried plant, central office specifications, numbering systems, and new developments in microwave and carrier. Newest of all, we have held a series of CPA symposiums to acquaint accountants with REA audit requirements.

The fact that our telephone borrowers ask for this type of activity proves to me that the industry has vigor and a strong sense of community responsibility.

REA is happy to be associated with this vital growing industry of yours. I hope that you will let us help you where we can in achieving your commendable goal of meeting the telephone needs of rural people.—*David A. Hamil.*

ITPA officers and directors (l. to r.): BERNIE SIMNER, St. Louis; KENNETH LAWSON, Lincoln, Neb.; Vice Pres. MISS E. M. HIESTAND, Madison Wis.; Pres. WILLIAM F. MILLER, Des Moines, Ia.; Vice Pres. GEO. A. HEARNE, Kansas City, Mo.; Executive Sec. MAYME WORKMAN, Springfield, Ill.; RAY J. ALTER, Galesburg; and GEORGE HAMBURGER, Washington, D. C. D. S. Guild, Honolulu, was not present.

ADEQUATE EARNINGS —REGULATORY CONSIDERATIONS

"If we are going to adequately protect our stockholders and prevent the erosion of their investment through loss of purchasing power, we must get 'present value' reinstated as the proper rate base . . . Remember growth is not attractive to investors unless it is translated into increased earnings."

By P. A. NENZEL*

Vice President and General Manager, California Water & Telephone Co.

San Francisco, Calif.

INDEPENDENT telephony is growing up. In the past decade plant investment in the Independent telephone industry has increased from $829,000,000 in 1948 to $2,760,000,000 in 1957, or 3.3 times.

With this growing up have come many problems, not the least of which is the maintenance of adequate earnings. In this growing up process many of our companies have had to go to the public for money, particularly equity, whereas in prior years most of our funds were obtained from borrowing, internal sources, and our private investments.

Bringing the public into our companies has created for us a responsibility for maintaining adequate and stable earnings if we expect to fulfill our obligation to these outside stockholders and if we expect them to continue to furnish us with ample funds. Adequate earnings in these inflationary times can be obtained only through economical operation and periodic repricing of our services.

It is this latter phase which is to be the subject of discussion in this paper.

The operating results of the Independent telephone companies reporting to the USITA show that the percent earnings on average capitalization was 6.5 in 1953, 6.4 in 1954, increasing to 6.7 in 1955,

Mr. Nenzel, presented this paper at the 1958 USITA Commercial Conference.

maintaining this rate in 1956 and then declining to 6.3 in 1957.

Likewise, the percent earnings on average common equity was 10.78 in 1953, 10.30 in 1954, increasing to 11.04 and 11.00 in 1954 and 1955, respectively, and then declining to 9.2 in 1957, whereas the Bell System, which earned the same return on average capitalization as the reporting Independent telephone companies in the years 1955 and 1956 was able to maintain this rate of earnings through 1957.

The conclusion to be drawn from these statistics is that the Independents have not moved rapidly enough in seeking a repricing of their services or have not sought an adequate return.

We must all realize that those of us who are dependent upon the financial markets for money are in competition not only with each other and other public utilities but industry in general and, consequently, if this trend in earnings continues there is only one inevitable answer, and that is our service is going to deteriorate as we are not going to be able to meet public demands.

"Anticipate Rate Relief That Will Be Needed"

NOW, what can we do about it? First, we should maintain earnings records on a moving 12-months ended basis so that we can see trends develop. Earnings should also be projected for at least 12 months into the future. Regulatory lag, which to a degree appears inevitable, can be overcome to some extent by being able through forecasting to anticipate some time in advance any rate relief that will be needed.

Assuming we have anticipated sufficiently in advance a projected decline in return and have made appropriate filings for the repricing of our services, our next job is to show the regulatory body what has taken place since our last rate proceeding in the way of attrition.

The term "attrition" has come to have common usage to express the decline in rate of earnings caused by inflation. It has been defined many times in papers on regulation and in Commission decisions. A recent decision of the Maryland Commission expresses the effect of attrition very well and at the risk of redundancy I will quote from it:

"*Attrition is the lessening or diminution of a rate of earnings caused by and resulting from the addition of investment in plant at a cost higher than the cost per unit (telephone) at the time rates were last established. It results directly from the fact that additions to plant at higher than average unit cost produce a new unit cost greater than the old while the rate of return is related to, but not established upon, the old cost per unit.*" (*Re: Chesapeake & Potomac Telephone Company of Maryland*, 22*PUR3d* 321.)

The demonstration of the actual effect of attrition is not as simple as its definition; consequently, some Commissions have refused to recognize its operation, usually because the utility has not made an adequate showing. Sometimes its operation has been obscured by temporary offsetting economies such as those resulting from automation. The method of meeting the problem has also varied. Some states have used a period end rate base; others have made allowance in the rate return and recently in a New Jersey decision the Commission added a flat percentage to the rate base.

"Allowance For Attrition"

HOWEVER DIFFICULT this phenomenon is of demonstration or by what method it is met does not minimize the fact that an adequate allowance for attrition is extremely important, particularly in those jurisdictions which use a past test period. Even in those states which use a future test period this element can have a considerable bearing on the length of time an adequate return may be maintained for the future.

A look at the statistics of the reporting Independent telephone companies tells us why. The average plant per station has increased from $222.00 in 1953 to $290.00 in 1957, or 33%. But that is only part of the story. In 1957 net additions to plant for each telephone gained was $634.00 whereas the average net additions per telephone gained for the preceding four years was $439.00. It is perfectly obvious that rates based on a plant cost of $290.00 per station cannot long maintain a rate of return when net additions per station gained are running at more than twice this amount.

We are currently in a unique situation, to my knowledge never heretofore experienced, where we have inflation and a recession at the same time. That the inflationary spiral which we have experienced during the past 10 to 15 years will continue is practically certain.

Many industries are still making labor contracts extending over a period of three to five years with built-in wage adjustments as well as other costly fringe benefits. Social Security taxes also have been increased again. Therefore, we must anticipate facing annual wage adjustments and their corollary fringe costs in the foreseeable future.

I have discussed the recognition of attrition as a means of maintaining an adequate rate of return once it is established. This element if properly recognized will only take care of the inflation problem for a short period, say two or three years, depending upon the particular circumstances.

The long term inflation must be met by another approach, that is by recognition of current costs or present value instead of just net investment or original cost. Ever since the United States Supreme Court handed down its decision in the Hope case the majority of the State regulatory bodies have been following the doctrine laid down in that case of the "end result."

This trend has been arrested in the last couple of years by State Supreme Court decisions which have forced recognition of current costs, or fair value, in their respective states. I think there are now 16 states which recognize fair value, Alabama being the latest to be added to the list.

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MEMBERS of this "Chet" Loveland USITA Convention group are (l. to r.): RUSSELL LOVELAND, FRED McGOUGAN, E. S. GERMAN, A. D. SCRIPTURE, CHESTER H. LOVELAND, FRED CRISTICH, and ART LAMBERT.

REDUCING FEDERAL HIGHWAY PLANT RELOCATION COSTS

By ALLAN R. STACEY*

Vice President and Manager,

Sunland-Tujunga Telephone Co.

Sunland, Calif.

THERE ARE over 600,000 miles of telephone pole line located in this country, excluding Alaska. The company I operate, Sunland-Tujunga Telephone Co., has 128.9 of these pole miles located in the community of Sunland, Calif. Stretched across the United States are more than 4,000 telephone companies, many like Sunland. These telephone companies serve two-thirds of the geographical area of the United States and are beginning to feel the impact of the monstrous program authorized by the Federal-Aid Highway Acts of 1956 and 1958.

The Highway Program

FEDERAL-AID Highways total 776,072 miles of Federal-Aid interstate highways, primary routes and secondary routes. During 1957 7,386 Federal-Aid projects were advanced to actual construction at a total cost of 2.4 billion dollars.

The national system of interstate and defense highways to be built over the next 13 years will connect as directly as possible the principal metropolitan areas, cities and industrial centers serving the national defense. It will link together 90% of the cities having populations in excess of 50,000 and will connect 42 out of 48 state capitols as well as over half of the rural population of the United States.

In the legislative history of the Federal-Aid Highway Act of 1956, the Congress of the United States said of this enactment, "In its entirety, it will be one of the greatest construction projects of all times."

Impact Upon The Telephone Companies

OF THE Federal-Aid highway projects envisioned under the 1956 Act as amended, it has been reliably estimated that 25% of the total proposed mileage will require the removal, relocation and reconstruction in new locations of the service facilities of utilities. You and I, Mr. Telephone Company Operator, have 611,450 miles of telephone pole lines and many of them are going to be moved by this highway program.

This program represents an enormous economic bur-

*Mr. Stacey presented this paper at the 1958 *USITA Engineering Conference*.

den laid at the doorstep of utilities. It is all the more burdensome when you consider (1) it means in most instances the building of duplicate facilities so that the customer may have continuous utility service, (2) it assumes the immediate ability to engineer the new project, (3) it assumes immediate availability of standard materials irrespective of manufacturing delays, (4) it assumes no difficulty in negotiating and securing the necessary rights of way, (5) it assumes the necessary construction forces being available, and above all else, (6) it assumes the immediate ability to raise the necessary capital, for nobody is going to voluntarily advance these funds to us.

We as utilities are being accused of throwing a roadblock in the path of the Federal Highway Program. Mr. Clifton W. Enfield, General Counsel for the U. S. Bureau of Public Roads, stated in 1957:

"*The Bureau's study indicated that in approximately one-third of the states highway construction progress is often seriously impeded by delay in utility adjustments. It was found that delay in highway construction, because of utility relocation resulted principally from* (1) *lack of adequate advance planning and investigation,* (2) *lack of adequate liaison between the highway agencies and the utility companies,* (3) *lack of an early firm commitment by highway agencies in scheduling projects for advancement to construction and* (4) *lack of adequate funds, personnel and equipment on the part of utility companies.*"

Members of this USITA Convention group are (l. to r.): GEORGE A. STEELE, Warsaw, Ind.; ROY F. SMITH, of TE&M, Chicago; and BILL CORMAN, Atmore, Ala.

Examples Of Solving The Problems

HERE IS how some of the problems are being solved:

Example No. 1: — There was an underground system carrying six large telephone cables located in a five-corner intersection which was involved in highway improvement. The telephone company had no advance knowledge of the project but learned of it about the time it was advertised for bids. Upon making a hurried investigation it was determined that there were seven drainage conflicts.

Fortunately, by change in plans of the state, which incidentally cost the state no more money, the drainage conflicts were resolved and the advertising of bids was held up while the plans were revised. As a result, not only did the telephone company save a substantial sum of money but tying up of automobile traffic at that intersection for three months was avoided.

Example No. 2: — By shifting the arc of the proposed curve in a highway, a matter of seven degrees, a utility was permitted to stay in its original location.

Example No. 3: — There was an underground conduit system located in the unused portion of the highway right of way. It was proposed to widen the highway by taking an additional width on both sides. To avoid relocating this conduit system at great expense, the state found it possible to take the entire additional width on one side of the highway.

The Utility Must Know

IN ORDER to solve problems in the above manner the utility must know what is proposed to happen and it must know long before the bids are advertised, but here is the picture which unfortunately prevails. The key agency in many public works groups on state, county and local levels designs and engineers highways and other improvements to provide what it wishes to accomplish. After its plan is completed and the contract is about to be let for construction the agency then, and then only, for the first time brings in the utility to tell it about the project.

What is the answer to this vexing problem? It can be described in one word — "information." You and I, and the State, and the public can all save if the utility gets "information" soon enough.

Experience in states where difficulties have been largely overcome indicates that understanding of the problems involved and initiation of action to solve them must begin months, or even years, before a project is advanced to the construction stage.

The most important and effective step consistently taken in those states that have successfully solved the problem is to arrange for conferences between representatives of highway agencies and the utility companies as soon as the location and the plans for a highway project have been developed sufficiently to indicate approximately what utility adjustments will be required.

As a result of such conferences, the utility is able to make detailed studies of the extent and cost of the work to be done and is able to do all the necessary budgeting and acquiring rights of way and scheduling the crews to perform the work.

Benefits Of Proper Liaison

NOW LET'S expand our word "information" so that it requires action as well as listening. Let us translate it into "liaison" which means the most effective cooperation between the highway official and the utility official by keeping each other informed to the maximum degree as to highway planning development and in working together as the utility company makes the necessary adjustments to its facilities. The benefits will be indeed attractive and worthy of effort.

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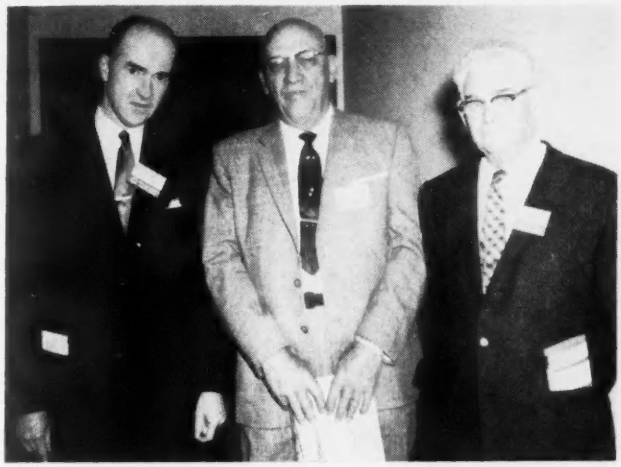

USITA Convention Group (l. to r.): JOHN G. REYNOLDS, Chicago; I. J. DEVOE, Lincoln, Neb., and TERRY KING, Lansing, Mich.

USITA Sec. GEORGE RICHERT (left) COURTNEY SNYDER (center), USITA assistant sec., discuss convention program with TOM WARNER of USITA's office.

THE VOICE IN THE DISTANCE

By D. J. TOMPERS*

Chief Engineer,

West Coast Telephone Co.,

Everett, Wash.

"There is no panacea, no shortcut or bright light to point out a sure-fire transmission improvement plan to end all plans. But this 'voice-in-the-distance' demands to be heard loud and clear despite distraction noises and despite alternate routings."

CERTAINLY you will agree that living in this atomic age of ours has further accelerated the American way of life. Not that this has been necessary, for we have always moved at a pace which has left most nations breathless. You might say that our motto has been "Bigger, Better and Faster." And to amplify this I would like to relate the expressions of a young Spanish exchange student who on visiting this country and looking about him, exclaimed, "Very different; very strange. Over there they say 'this is 400 years old.' Over here they say, 'this is 40 stories high'." So we rush on, improvements upon improvements, a never ending cycle.

This is particularly true of the communication industry. Let us stop and consider the short period of time that has actually passed since the memorable achievement of Bell's where he succeeded in passing voice over wires between rooms within a single building (1875) . . . to the point where voice transmission was perfected between subscribers within the same town (Boston) . . . to the point where messages were transmitted over a pair of wires between Boston and Cambridgeport (2 miles) . . . to the *unthinkable* achievement of the construction of a transcontinental telephone line (1915) and all this within a period of 40 years . . . Then the advent of open wire carrier, the coaxial cable, microwave radio . . . What next?

Of course, in all of these achievements; that is, dating from about the time of a transcontinental telephone line, there has been one character who has had a vital part in the performance, and that is the transmission engineer. His has been the problem to provide adequate (that word could stand some definition and explanation) transmission from point 'A' to point 'B.'

We might exaggerate just a tiny bit in the statements to follow, but they are not too far afield I'm sure. Thirty to 35 years ago a resident in New York would have hesitated to call Centerville, Kans., with the ex-

**Mr. Tompers presented this paper at the 1958 USITA Engineering Conference.*

ception of a dire emergency, and if the call had been made, both parties would have shouted louder and louder until their speech was practically unintelligible, and then probably only part of the information would have been successfully transmitted.

Let us say 20 years ago the same call successfully completed, with minor difficulty in hearing, would have assured the telephone company of a glowing tribute to its success. However, with the age we're living in today, the least distraction or evidence of poor quality, regardless of distance, is certain to bring criticism from our

DAIL H. HOLDERNESS (left), Tarboro, N. C., and USITA Director FRANK G. LAPRADE, Martinsville, Va.

subscribers. To today's subscriber, the "voice in the distance" must be the same as that of the person at his elbow, and he does not look upon transcontinental conversation as being any different than calling his wife at home within the same town.

From the beginning of the telephone industry, through the year 1914, long distance transmission of speech was limited by attenuating effects of the telephone lines themselves. More simply stated, the reduction of voice currents is due to electrical loss, resulting from circuit capacitance, inductance, resistance, etc.

In approximately 1915 the telephone repeater, employing vacuum tubes, was introduced. This represented a tremendous stride forward in the science of communications, and with it ushered in the era of transmission engineering. Telephone companies began to broaden their outlook. They began to concentrate on a long haul basis. The last 40 years, and particularly the last 15 years, have seen continued service improvement.

If we were gifted as some of God's creatures, to be able to adjust ourselves to situations and circumstances that prevail, we would be able to tune our ear to listen to the telephone conversation and block from it all the other extraneous noises. This, however, is not our ability but rather the reverse seems to be true. The minute we pick up a telephone to listen to a conversation, our ears seem atune to the extraneous noises that descend upon us and what we would normally disallow immediately rises to gigantic proportions. This situation in itself must always be remembered.

The result, once again the "voice in the distance" must represent the person at your elbow. There can be little echo, little side tone, no straining of the eardrum to hear the whispers at the distant end, rather the conversation must be carried on as easily as I am here talking to you. Herein rises the problems of the transmission engineer.

As long distance has become more popular, the demand for improved service has been his responsibility. He has developed electronic devices in an ever increasing variety of design. The cost of engineering and providing this equipment could be reconciled somewhat by the knowledge that improved service would increase long distance calling and bring in more revenue. Short haul calling, always a concern of the transmission engineer, did not lend itself to the expenditure of vast sums of money for complex electronic devices.

Both long and short haul transmissions have improved throughout the years, but our biggest strides have been made in the field of long haul transmission problems. This, of course, is due to the practical aspects of transmission engineering. Vast sums of money on short haul calls for the purpose of eliminating the wide disparity in transmission losses between several local circuits, has not been economically practical. On the other hand, in most instances, long haul calls have paid their own way.

Nationwide Toll Dialing

THE ADVENT of nationwide toll dialing added to the problems of the transmission engineer. The old problems of volume, distortion, side tone, line noise, uncontrollable user problems, attenuation, etc., were joined by problems of another kind; alternate routing, echo tolerance, via conditions, via net loss, via net loss factors, and switching pads became the new phrases of the transmission engineer.

Nationwide toll dialing plan is a communicative network throughout the United States and Canada enabling any customer to call any other by merely dialing his number.

Generally the plan is based on the principle called "automatic alternate routing." Any calls between two points may have many paths, varying in complexity from a direct connection to a connection utilizing as many as seven intertoll lengths in tandem, (Between Class 4 office "Toll Center or Toll Point") plus the originating and terminating lengths for a maximum of 9 lengths.

The characteristics of various intertoll circuits used on successive calls between two telephones can vary greatly due to alternate routing. In order to avoid a large transmission variation on successive calls, and to eliminate the possibility of inadequate transmission, it is imperative that the loss of each length used in connection be kept at a minimum.

Ideally, of course, operating all circuits at zero db level would make the transmission independent of the number of circuits used in any one connection. Obviously this would be a large order. Actually the great distances involved, prohibit a zero db circuit due to the necessity of operating even the best facilities at some loss.

To insure that suitable characteristics pertaining to transmission are maintained, minimum losses must be maintained, but to establish a procedure to maintain a minimum loss for each length and for each makeup or circuit route, would be a task of unbelievable difficulty.

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MONTHLY SALES LEADERS: Pictures of Honolulu Service Representatives are mounted on a replica of a dial to give recognition to sales leaders.

Commercial Conference Emphasizes Sales Methods

By DICK REYNOLDS

USITA Commercial Conference speakers discuss Selling, Automation, Adequate Rates and Earnings, Excise Taxes, and Foreign Attachments. Emphasis placed on need for increased sales efforts.

SELLING, automation, adequate rates and earnings, excise taxes, foreign attachments and a report on "Business Selling — Hawaiian Style," were among the topics discussed at the USITA Commercial Conference on October 13.

The conference, held in the Astoria Room of the Conrad Hilton Hotel, Chicago, attracted many USITA Conventioners who were welcomed to the 61st national meeting by USITA's Vice President Foster B. McHenry, Jefferson City, Mo., and USITA Commercial Committee Chairman, Kenneth L. Lawson, of the Lincoln (Neb.) Telephone & Telegraph Co.

Chairman Lawson set the stage for the conference with his report on activities of the USITA Commercial Committee which pointed out that merchandising is now in the forefront in the planning of most progressive telephone companies.

Increasing emphasis is being given to sales, advertising and customer surveys with the long range view of bringing in more revenue dollars and providing a complete and pleasing service to customers," Chairman Lawson said. "Your committee suggests that the decision to engage in such a program should no longer be postponed by any company. It is also the time for a critical and searching appraisal of efforts that have been undertaken in this direction. If our efforts are not bringing desired results, we should know why and then do something about it. There is a great potential for sales in many areas in our business. An aggressive and constantly reappraised merchandising program will pay rich dividends for alert management."

Turning to rates, Mr. Lawson stated the Commercial Committee feels that

too many companies, especially the smaller ones, are still reluctant to ask their customers to pay a fair and reasonable rate for service.

"We feel also," he said, "that conditions now are advantageous for a positive step in this direction. No company can do the right kind of a job for the public, its employes or its investors without a foundation of adequate rates. Actually, it has been proved that in the long run the telephone user actually pays less for service if the company has resources for proper long-range planning in its engineering and construction programs. Direct distance dialing is making us more and more a national community. Your committee believes that all of us in the business have a definite obligation to other companies, as well as to the public, to provide a high grade service for all telephone users."

Stating that several recent decisions by regulatory bodies indicate a growing awareness on the part of such commissions of the effects of inflation and attrition on the operations of telephone companies, the Accounting Committee chairman referred to one recent case where a large company was given a 7.1% return with recognition given to the declining trend in the rate of return.

"Other decisions by courts and commissions," he said, "reflect an increasing recognition of the necessity of giving consideration to replacement costs in establishing rate bases. No company in need of rate relief should postpone any longer the filing of an application with its regulatory body for a fair and reasonable return on its investment. . . ."

Referring to the facts that many exchanges are being converted to local dial operation and direct distance dialing is becoming more universal, Mr. Lawson said, "Your committee suggests that commercially there is a big job to do in this respect both in educating the public in the proper use of the service and selling its advantages. Advertising, printed brochures and personal interviews are effective means of accomplishing this. Your committee is ready to provide advice and suggestions to companies

USITA Commercial Committee Chairman, K. L. Lawson, Lincoln, Nebraska.

which want it and will also welcome receiving materials and ideas from those who have had experience in such endeavors."

Pointing out that the FCC ruling on the "Hush-A-Phone" case "let the proverbial camel get his head under the tent with respect to the industry's traditional position on protective tariffs against foreign attachments," Mr. Lawson reported that 'since then it has become increasingly difficult to restrict or prohibit the use of attachments to telephone equipment and directories."

"Most of these," he said, "as we all know very well, are either injurious to the equipment or service or serve no necessary function for telephone users that could not be provided to better advantage by the telephone company. Your committee urges all companies to keep their guard up against foreign attachments of any description. A strong front and positive action against such encroachments are more important now than ever."

Chairman Lawson concluded the Commercial Committee report by reporting that much headway was made during '58 in telling the telephone excise tax story to the public and to members of congress.

"Although they (removals) were not enacted into law," he said, "the vote was comparatively close, indicating that many members of congress understand and are sympathetic to our position. Recently, however, a further problem has come up in the action of a joint Federal-State committee in approving a proposal to make available to the states 40% of the Federal tax on local telephone bills. Proceeds would go for vocational education and sewage treatment construction. The danger here is that such a tax on the state level could become a permanent fixture in the tax structure. It would make more difficult our efforts toward repeal. Telephone companies should intensify their efforts now toward this goal by continuing to state the facts to the users of the service and in making our position clear to those who represent us in the national system. . . ."

Following his presentation of the USITA Commercial Report Mr. Lawson introduced the three conference speakers: R. Parker Sullivan of the General Telephone Corp., New York City; William C. Kea of the Hawaiian Telephone Co., Honolulu; and P. A. Nenzel of the California Water & Telephone Co., San Francisco, Calif.

Business Office Selling Hawaiian Style

THE General Commercial Manager of the Hawaiian Telephone Co., William C. Kea, told the Commercial Conference that in 1956, the Hawaiian Telephone Co. instituted a vigorous promotional campaign "in keeping with the new merchandising look."

"To begin with," he said, "we offered color training to our service representatives. We found color to be a fascinating subject and our people went for it in a big way. We showed charts and explained why certain colors are warm, some cool, and others neutral. Our service representatives appreciated this phase of their training and learned that selling color could be fun — *when they had time.* We also trained our people in recognizing opportunities for selling additional telephones — *when they had time!*"

Stating that the phase '*When they had time*' summarizes the chief fault of the early part of the company's new sales promotion, Commercial Manager Kea emphasized that, "We soon learned that to do a good sales job we had to provide the time required."

"Through experience," he said,

"we found that an average of four minutes was required for each sales attempt. To meet this requirement we had to increase our work force, an added expense which we have been successful in offsetting many times over by the resulting new revenue."

Emphasizing that the phrase '*When they had time*' also implies that sales effort is of secondary importance, Mr. Kea warned "It is just as much a part of the job as getting such pertinent information as the correct address or quoting the appropriate charges."

Summarizing his comments, Mr. Kea stated Hawaiian Telephone Co. had found that: (1) It is necessary to provide time for an adequate sales job; (2) selling must be accepted as part of the job; and (3) supervisors must be competent sales people.

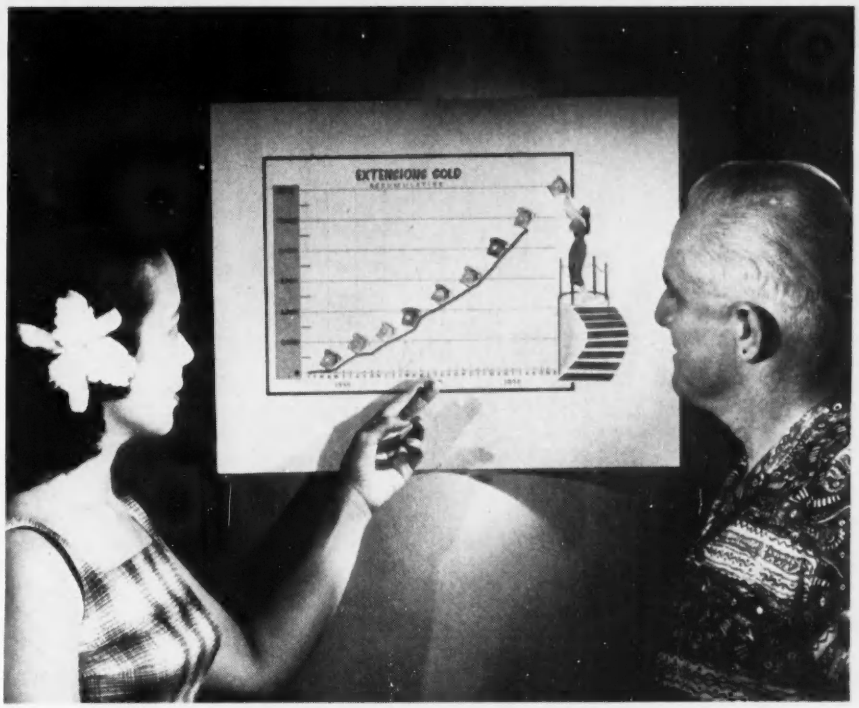
With these essentials in mind, Mr. Kea reported Hawaiian Telephone's training supervisor developed a training outline and then tried it on herself.

"She took regular customer calls and handled them in the prescribed manner," he said. "By making a number of sales, she proved to herself that the new techniques really worked."

Other features of the program included:

(1) *A training film* which depicted the telephone needs in a typical American family was used. Through this movie employes learned that customers are not aware of the inconvenience of having only one telephone. Floor plans of the homes shown in the movie were studied and telephones were proposed by the students for areas where members of the families lived, worked, and slept. The question, "What do we mean by complete, modern telephone service?" was answered.

(2) *Another movie was then shown which depicted a typical service representative who had sales training*, but had difficulty in applying what she learned. She experienced many problems such as not obtaining sufficient facts about customers' homes and the users of the service. With the aid of her supervisor she overcame these selling obstacles and was successful in convincing the customers that they should have adequate service.



General Commercial Manager W. C. KEA, and Service Representative SHIRLEY SCOTT view a chart showing the accumulative number of extension phones sold by Hawaiian Tel. Co. service representatives since 1956.

(3) *Hawaiian Tel. then presented an accelerated program to all Business Office supervisors* above the first line level. This session was designed to develop attitude rather than techniques. It lasted the better part of a day and successfully gained the support of the unit managers and staff members who were to follow the sales program as it progressed.

(4) *The company set up a comprehensive training program for its first line supervisors*, allowing four days for each class and programming the training sessions on a continuing basis. Hawaiian Tel. made certain the supervisors developed into competent sales people — and had them spend the final day of the course making customer contacts and putting into practice the training which they had received.

USITA Conference Speaker, W. C. KEA, general commercial manager, Hawaiian Tel. Co.

(5) *As the supervisors completed their training they in turn instructed* their respective groups of service representatives.

(6) *A sequence list was developed for use by the students* while taking applications for new service or moves of service. This list was built around the four basic steps to selling: (1) fact finding; (2) making recommendations; (3) answering objections, and (4) closing a sale. Hawaiian Tel. did not let a service representative leave the classroom and return to her position in the Business Office until she had successfully handled actual customer contacts from the classroom.

"Then came the all important job of follow-up," Mr. Kea reported. "We carefully watched each group of representatives as their training was

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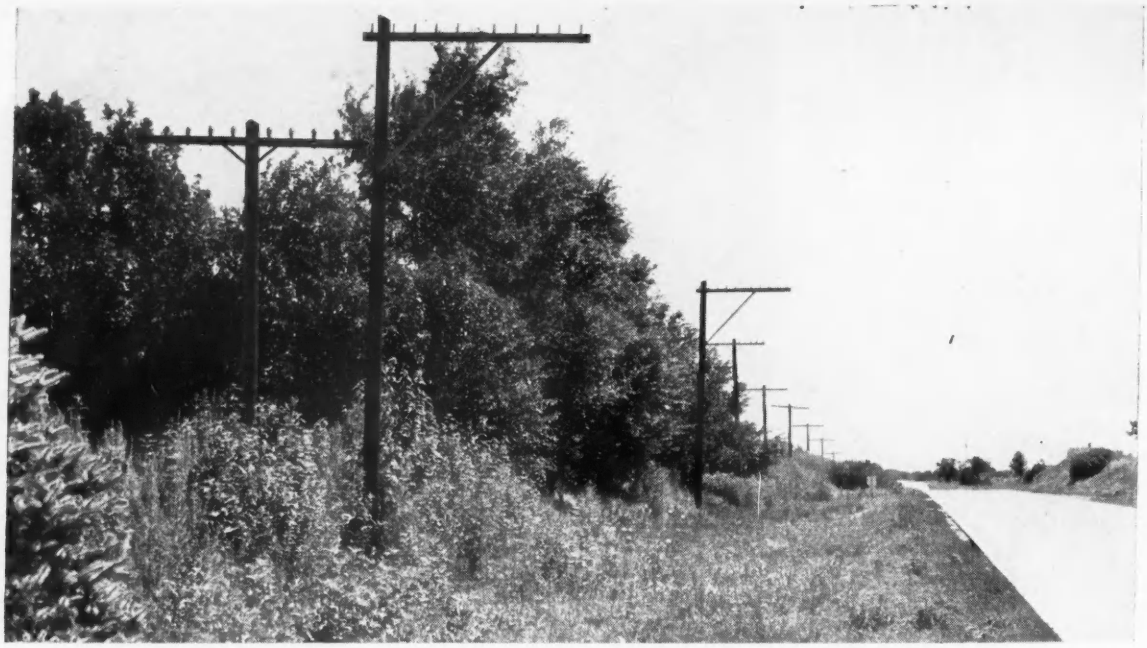

"The engineer's creation is never complete. It is constantly being enlarged, improved and replaced."

"Past, Present and Future" Highlight Engineering Conference

By JOHN S. REED

"Today, the engineer is the 'applier,' using new components and new techniques to create the telephone systems to provide the service his company is called upon to render . . . ."

PROPERLY observing its second year of operation, the USITA Engineering Committee and its five Subcommittees presented a consolidated report to the USITA Engineering Conference on October 13, detailing actions taken during '58 and outlining plans formulated for the future.

USITA Engineering Committee Chairman Paul H. Henson, of the Lincoln (Neb.) Telephone & Telegraph Co., presided at the conference and introduced association President Clive W. Haas, Big Timber, Mont., who welcomed conventioners to the conference.

Presenting the Engineering Committee report Mr. Henson reported that at the outset of the Association year three new members were assigned to the General Engineering Committee.

"The new thoughts and ideas introduced by these members," he said, "have had a most beneficial effect on our operations. We were also privileged to have new Subcommittees formed under the Engineering Committee. These Subcommittees on Transmission and Protection and on New Techniques and Devices will surely make contributions of importance to the Association once plans now being formulated are implemented. A total of 10 new members were assigned to the five Subcommittees, thereby injecting a wealth of new ideas."

Mr. Henson stated the General Committee in 1957-58 had acted on general engineering problems that concerned the evaluation of new products and equipment. Several manufacturers sought advice on products under development. In keeping with Association policy, the principle of operation or design was evaluated and not the end product itself.

Mr. Henson also reported that publication of a fundamental planning text is under active consideration and that proposal to publish a specification on Underground Distribution Systems has been rejected as being impractical.

Other sections of the report presented by Chairman Henson covered activities of the following subcommittees: (1) Radio and Carrier; (2) Direct Distance Dialing; (3) Engineering Education; (4) Transmission & Protection; (5) New Tech-

niques and Developments.

Discussing the second annual Engineering Management Conference at Michigan State University, Chairman Henson reported that 35 participants representing 27 companies, completed the Conference course.

"There has been evidence," he said, "that the four-week period is sufficiently long as to restrict registrations from many operating companies. Several evaluators have indicated the desirability of streamlining the Conference so that engineering techniques are accentuated and economic considerations allocated less instructional time. This and related suggestions will be explored by the Subcommittee in a meeting scheduled for October 16, 1958."

Stating that the telephone industry has accorded general acceptance to the Engineering Management Conference, Mr. Henson added that as the objectives and accomplishments of the Conference become better known, it is probable that interest and enrollment will grow accordingly.

"While small study and lecture groups will be maintained," he said, "it is vital that enrollment increase if the best instructional talent available is to be retained. In order to interest more operating companies, a complete review of the present curriculum is now under way. Every effort will be made to streamline the course and to add emphasis to operating engineering subject areas. With two sessions already under our belt, we know many of our mistakes. It now remains to correct those mistakes without making more. If such remedial action can promptly and properly be applied, the Telephone Engineering Conference could well be destined for a long run in Lansing."

Mr. Henson stated the Educational Subcommittee had reviewed the Georgia Tech Telephone Technology Course.

"This program," he said, "designed for training and developing telephone technicians, received the wholehearted endorsement of this Subcommittee. It was recommended through Member Letters that Member Companies and State Associations actively encourage participation in the program.

PAUL H. HENSON, Lincoln, Neb., chairman of the USITA Engineering Committee presided at the Engineering Conference.

In concluding the report, Chairman Henson stated the Engineering Committee had prepared the following recommendation: "It is recommended to the Board of Directors of the United States Independent Telephone Association that official sanction be granted to the establishment of Transmission Committee on a State level and that all State Associations be urged to participate in the formation of such committees."

"While complete details have not yet been formulated," Mr. Henson said, "it is anticipated that the pilot organization in South Carolina will provide remedial action for other problem areas. One specific problem that can logically be dealt with on a local level is that of administering DDD area numbering plans. It is anticipated that such local organizations can also serve as the disseminating medium for the national practices and procedures prescribed by the DDD Subcommittee."

Referring to the technical liaison requirements that are known to exist on the area of SAGE, SAC, and other defense facilities and Dataphone transmissions, Chairman Henson noted that "All of these developments in the art of telephony impose new and stringent engineering techniques."

"Just as there is need for technical liaison between interested parties in the fields of DDD and Radio," he said, "there is a similar need in these fields. The Committee has not had sufficient deliberations to recommend a firm course of action to the Board at this time. However, it was deemed appropriate to suggest Board consideration of these developments at this time. It is possible that the responsibilities of the Committee could merely be expanded to include these areas of endeavor until the needs can be more properly evaluated. At that time, specific recommendations as to organization and scope of responsibility would be provided . . ."

Following his presentation of the Engineering Committee Report, Chairman Henson introduced the following conference speakers: Frank D. Reese, General Telephone Corp., New York City; Dan Tompers, West Coast Telephone Co., Everett, Wash.; Allan R. Stacey, Sunland-Tujunga Telephone Co., Sunland, Calif.; and V. N. Vaughan, Jr., American Tel. & Tel. Co., New York City.

Engineering — A Necessary Evil

THE Engineering Director of General Telephone Service Corp., New York City, F. D. Reese, told the USITA Engineering Conference that telephone company growth had caused increased plant investment, somewhat increased specializing of personnel, and a greater urgency for a sound engineering approach to create and guide an advance-planned program of plant expansion.

"At this point," he said, "you might leap to the conclusion that the degree of recognition of the fact that sound engineering procedures are a requirement of good management is merely a linear function of size. . . ."

Explaining the compelling factor that has applied an exponential "nudge" to the necessity for the engineering approach, Mr. Reese stated that years ago when the telephone system was first being developed and constructed, the technical training necessary to permit the interconnection of the various telephone stations was relatively simple.

Emphasizing that 50 years later, the technical complexities are entering the telephone business at an ever-increasing rate, Mr. Reese stated, "Today the telephone man is concerned with such things as carrier, microwave, radio, television, dial

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SIMPLICITY OF DESIGN...a

Telephone N

Automatic Electric research and design engineers combine their talents to plan the simplest possible construction for Strowger Automatic equipment.

another reason why

Men Choose Strowger!

When purchasing central office equipment, the experienced buyer looks for a product that offers *minimum maintenance.* That's why so many telephone men choose Strowger Automatic. You see, Strowger operates on a step-by-step principle and is designed with the simplest possible construction. This keeps adjustments and repairs to a minimum. The position of the switching components permits visual tracing of circuit operation. This speeds your initial training of personnel and makes trouble-shooting quick and easy.

PROVE IT FOR YOURSELF! Visit a Strowger Automatic exchange. You'll see that Strowger offers unsurpassed simplicity in design. You'll also see the craftsmanship and quality construction of this famous equipment. Then get in touch with us. We'll be glad to help you in any way possible. *Write Automatic Electric Sales Corporation, Northlake, Illinois. Or, call Fillmore 5-7111.*

AUTOMATIC ELECTRIC

Subsidiary of **GENERAL TELEPHONE**

USITA Banquet Committee Chairman JOHN BROWN COOK, (left), New Haven, Conn., outgoing Pioneer Pres. R. N. COLE (center), Marion, Ohio; and E. WINSTON RODORMER (right), Syracuse, N. Y.

RICHARD N. COLE (left) retiring Pioneer president receives scroll commending his service from new Pioneer President WILLIAM MILLER, Des Moines, Ia.

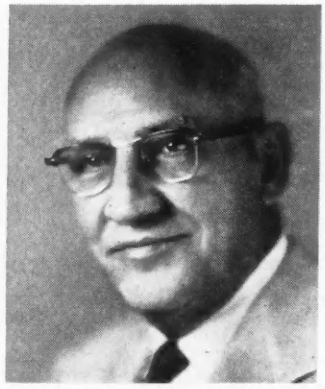
Accountants Study Economic Depreciation

By MYRLE SHAFER

USITA Accounting Conference features discussion of - (1) Mark Sensing of Toll Tickets, (2) Economic Depreciation, (3) Mechanization, and (4) Accounting and Regulation.

THE BEVERLY Room of Chicago's Conrad Hilton Hotel was crowded on October 13 as USITA Accounting Committee Chairman I. J. Devoe, of the Lincoln (Neb.) Telephone & Telegraph Co., called the 1958 Accounting Conference to order and introduced the association's Vice President, Hugh A. Barnhart, president of the Rochester (Ind.) Telephone Co., who welcomed the Independent telephone industry accountants to USITA's 61st annual convention.

Following Vice President Barnhart's remarks which emphasized the importance of work performed by industry accountants, Chairman Devoe presented the USITA Accounting Committee Report, summarizing the committee's activities and its conclusions and recommendations on: (1) mark-sensing toll tickets; (2) accounting changes and proposed rule making for FCC; (3) income tax rules applied to simplified station accounting; and (4) methods of adjustments and use of indices.



I. J. DEVOE of Lincoln, Neb., presided at the USITA Acctg. Conference.

Mark-Sensing of Toll Tickets

EXPLAINING that mark-sensing toll tickets is done by marking information with a special electrographic pencil which creates marks that can be sensed by machines and converted to punched holes for further machine processing, Chairman Devoe pointed out that the rapidly increasing installations of direct distance dialing equipment have hastened the adoption of mechanical means for revenue accounting operations, since the equipment automatically provides in punched or perforated tape form a record of each message which may be mechanically interpreted and billed.

"It is expected," he said, "that where DDD is in use, only about one-half of the toll message volume will

be derived from DDD and thus be mechanically ticketed. This leaves about one-half of the volume which must be manually ticketed. It has been found by study and experience that the mark-sensed toll ticket plan is both practical and economical and should be used in the processing of the manually prepared tickets. The greatest economy can be realized from the various accounting processes when source information may be mechanically interpreted. . . ."

Accounting Changes and Proposed Rule Making For FCC

REFERRING TO the recent A.T.&T. Co., petition requesting the FCC to waiver of accounting rules applicable to investment in certain S.A.G.E. telephone equipment now included in account 231, Station Apparatus, and account 232, Station Connections, Mr. Devoe stated the A.T.&T. Co., proposes the investment in such equipment be included in account 234, Large Private Branch Exchanges.

"Because of the abnormal amounts involved in these investments," he said, "it is apparent that the investment should not be carried with Station Apparatus and Station Connection accounts. Therefore, the Committee concurred in the A.T.&T. Co. recommendations."

Commenting on the matter of Proposed Rule Making in Docket No. 12568 which involves the accounting for a charge that is made to the customer to recover the loss in investment in cases where the rendering of service requires special construction of facilities for a customer and there is no other expected future use for the facilities so constructed and if service is terminated within a specified time, Mr. Devoe said it has been requested that specific ruling be made to provide for the crediting of such termination charges to the depreciation reserve account rather than to revenue accounts.

"The Accounting Committee," he said, "believes that present accounting regulations may be interpreted to permit the proposed accounting rule. However, it believes clarification is advisable. The committee has review-

J. W. BAKER (left), Spokane, Wash., meets with HAMILTON CUNNINGHAM, Albany, N. Y., during the USITA Convention.

Canada was represented at the USITA Convention by STUART PARSONS (left), A. H. BROWN (center), and CHARLES COUSINS, all from Byron Tel. Co., Byron, Ontario, Canada.

ERNEST J. (PUG) RENTNER, famous Northwestern University football immortal, greets roommate of university days RUSSELL LOVELAND during USITA meeting.

USITA 1st Vice Pres. FOSTER B. McHENRY, (left) Jefferson City, Mo., chats with USITA Director HERMAN E. HAGEMAN, Lorain, Ohio.

W. S. HOWARD, (left) Millington, Tenn., greets USITA Conventioner B. B. HARDER, Sumter, S. C.

ed the FCC Notice of Proposed Rule Making with reference to this subject and objects primarily to the monetary limit in the amount of $10,000 which is suggested as an appropriate minimum credit that may be made to account 171, Depreciation Reserve, in each particular case. We believe any monetary limit would be discriminating and would deprive small telephone companies of proper accounting treatment of the termination charges in many cases. We believe that the principle of crediting the depreciation reserve with the termination charges in the circumstances described above is sound and proper accounting and that it should not be varied on account of the amount of billing.

"The Committee believes that simple and direct clarification of the present accounting rules should be made so as to remove any doubts as to the authorization of the proposed accounting. . . ."

TABLE ONE

Illustration of Method of Adjusting Original Cost Dollars in Telephone Plant to 1957 Dollar Values Using Actual Age Distribution of Plant in Service December 31, 1957

Year Placed in Service	Yearly Average of Consumer Price Index 1947–1949=100	Age Distribution of 12-31-57 Surviving Balance of Plant in Service Original Cost Dollars **	1957 Dollars ** Col 3 × 1.189 / Col 2
(1)	(2)	(3)	(4)
1920	0.857	$ 2,000	$ 3,000
1921	.764	3,000	5,000
1922	.716	2,000	3,000
1923	.729	5,000	8,000
1924	.731	4,000	7,000
1925	.750	10,000	16,000
1926	.756	18,000	28,000
1927	.742	20,000	32,000
1928	.733	21,000	34,000
1929	.733	33,000	54,000
1930	.714	35,000	58,000
1931	.650	21,000	38,000
1932	.584	33,000	67,000
1933	.553	30,000	65,000
1934	.572	40,000	83,000
1935	.587	87,000	176,000
1936	.593	79,000	158,000
1937	.614	86,000	167,000
1938	.603	89,000	175,000
1939	.594	89,000	178,000
1940	.599	105,000	208,000
1941	.629	103,000	195,000
1942	.697	85,000	145,000
1943	.740	82,000	132,000
1944	.752	59,000	93,000
1945	.769	41,000	63,000
1946	.834	111,000	158,000
1947	.955	202,000	251,000
1948	1.028	197,000	228,000
1949	1.018	247,000	288,000
1950	1.028	297,000	344,000
1951	1.110	309,000	331,000
1952	1.135	430,000	450,000
1953	1.144	480,000	499,000
1954	1.148	346,000	358,000
1955	1.145	410,000	426,000
1956	1.162	404,000	413,000
1957	1.189*	781,000	781,000
	Total	$5,396,000	$6,718,000
Depr. Accrual, year 1957 at 5% Rate		$ 270,000	$ 336,000
Accrual Increase Col. 4 over Col. 3		$ 66,000 (24%)	

* Average for 1st quarter of 1957
** Rounded to thousands of dollars

TABLE ONE illustrates how to apply a formula to adjust present book costs to approximate current dollar values by use of the yearly Consumer Price Index *(Col. Two)*. The present book costs of telephone plant in service is shown in *Col. Three* and is tabulated to show the year in which it was placed in service in *Col. One*. *Column Four* shows the result of applying the Consumer Price Index to *Column Three* as explained in the heading in *Column Four*. The source for the statistical information shown in *Column Two* as the "*Yearly Average of Consumer Price Index*" is from the Statistical Abstract of the U. S. 1957, United States Department of Commerce, Table 400, Page 328. The original cost for each year in *Column Three* is multiplied by the ratio of the price index for each year to the index of 1.189 for 1957 as shown by the formula at the head of *Column Four*.

Economic Depreciation

POINTING out that for the past several years there has been an increasing interest in the meaning and implications of economic depreciation, Mr. Devoe reported several USITA member companies have expressed an interest in the subject and asked for help in finding methods which would closely measure the unaccounted-for economic loss due to the steadily decreasing value of the dollar.

"Because of this interest shown," he said, "the Accounting Committee was asked to study the matter and make recommendations with respect to the subject. We were also asked to outline some plan of approach that might be taken by a telephone company that wishes to determine the effect of economic depreciation. In submitting our report to the officers of the USITA, the Committee suggested that a program of publicity should be adopted to acquaint our member companies with the subject and show them how they may determine the approximate economic losses not shown under present accounting rules and practices. . . ."

Defining economic depreciation as the amount of depreciation for a given year based on original cost of the property adjusted to the current purchasing power of the dollar by using one of the acceptable indices, such as the Consumers' Price Index prepared by the Bureau of Labor Statistics, Mr. Devoe stated, "Economic depreciation is the amount required for the recovery of the capital represented by property in terms of the current purchasing power of the dollar. It reflects the current cost instead of the original cost of depreciable plant chargeable to depreciation expense during an accounting period."

Mr. Devoe reported that with the advent of substantial inflation fol-

lowing World War II serious attention has been directed to the consideration of the change in price levels and the economic effect it may have when related to the actual loss of property consumed in serving the public.

"Under our present accounting rules," he said, "income is based on *current dollar* revenues; but the important expense items of depreciation represents the *historical dollar* costs of assets consumed in service. We may justifiably question the reliability of the stated income because of this fact."

Explaining the economic depreciation Concept, Chairman Devoe listed these facts: —

(1) The economic depreciation concept requires that the *real cost* of the property consumed must be stated on the basis of the value of current dollars; which is to say that if prices have doubled since the installation of the depreciable plant, "we must recognize twice as much depreciation expense as under our present accounting rules in order to fully protect the stockholders' equity. Provisions for economic depreciation are not the same as for replacement reserves. The property may not be replaced, and if replaced may not be replaced in kind, the used-up property may be entirely obsolete, etc."

(2) The economic depreciation concept is based upon the premise that whenever the purchasing power of the dollar is different than at the time of acquisition or purchase of depreciable property the annual depreciation charge computed on the basis of original cost overstates or understates the dollar amount of capital that should be recovered through expense charges. Stating depreciation in terms of original cost of plant when the dollar buys only one-half of what a dollar bought when the plant was purchased means only one-half of the real capital is being recovered that should be recovered. The measurement of economic depreciation may be obtained by adjusting the original cost of property to present day cost and calculating depreciation on the adjusted basis.

(3) It may be said that under the present system of accounting, without recognition of the inflation factor, customers are not being charged with the entire *real cost* of the plant they are consuming. In other words, a 1958 dollar will not cover an investment in plant installed 10 or 15 years ago. If the telephone companies are entitled to a return on the fair

Please turn to page 92

TABLE TWO

Illustration of Method of Adjusting Original Cost Dollars in Telephone Plant to 1957 Dollar Values by Using FIFO Method of Yearly Distribution

Year Placed in Service	Yearly Average of Consumer Price Index 1947—1949=100	Gross Additions	Yearly Distribution of 12-31-57 Surviving Balance First-in — First-out Basis Original Cost Dollars **	1957 Dollars ** Col 3 × 1.189 / Col 2
(1)	(2)	(3)	(4)	(5)
1920	0.857	$ 31,000		
1921	.764	39,000		
1922	.716	22,000		
1923	.729	49,000		
1924	.731	34,000		
1925	.750	75,000		
1926	.756	118,000		
1927	.742	116,000		
1928	.733	109,000		
1929	.733	153,000		
1930	.714	147,000		
1931	.650	80,000		
1932	.584	114,000		
1933	.553	95,000		
1934	.572	116,000		
1935	.587	231,000		
1936	.593	194,000		
1937	.614	195,000		
1938	.603	188,000		
1939	.594	175,000	$ 116,000	$ 232,000
1940	.599	193,000	193,000	383,000
1941	.629	178,000	178,000	336,000
1942	.697	138,000	138,000	235,000
1943	.740	126,000	126,000	202,000
1944	.752	86,000	86,000	136,000
1945	.769	57,000	57,000	88,000
1946	.834	146,000	146,000	208,000
1947	.955	253,000	253,000	315,000
1948	1.028	236,000	236,000	273,000
1949	1.018	285,000	285,000	333,000
1950	1.028	331,000	331,000	383,000
1951	1.110	335,000	335,000	359,000
1952	1.135	456,000	456,000	478,000
1953	1.144	499,000	499,000	519,000
1954	1.148	355,000	355,000	368,000
1955	1.145	416,000	416,000	432,000
1956	1.162	407,000	407,000	416,000
1957	1.189*	783,000	783,000	783,000
	Total	$7,561,000	$5,396,000	$6,479,000
Depr. Accrual, year 1957 at 5% Rate			$ 270,000	$ 324,000
Accrual Increase Col. 5 over Col. 4			$ 54,000 (20%)	

* Average for 1st quarter of 1957
** Rounded to thousands of dollars

TABLE TWO illustrates an alternative method which may be used if actual dates of installation of present plant in service are not available. In this method the first-in first-out principal is applied to establish the age distribution of plant in service. This principal assumes that the plant first installed is first removed. Therefore the gross additions for the current year and for each preceeding year are listed until the gross additions so listed equals the total plant in sevice. This tabulation is shown in *Column Four* under the title "Yearly Distribution of December 31, 1957 Surviving Balance, Original Cost Dollars." Obviously this method is not as dependable as the actual age distribution used in *Table One*. With these exceptions, the calculation follows the same principal as that applied in *Table One*. The same original cost dollars of $5,396,000 are used in both examples. It will be observed that under the first method the company should have provided for $66,000 or 24% additional depreciation expense to cover economic depreciation and in the second method the company was short $54,000 or 20%.

MERRICK E. WHEELER (left) Springfield, Vt., discusses USITA Convention with DANIEL De HAYES, Columbus, Ohio.

Plant Conference Emphasizes Need For Sales By Plant Forces

By JOHN S. REED

SALES by plant forces, safety, new methods, and production measurement were among the subjects discussed at the recent U. S. Independent Tel. Assoc. Plant Conference.

SAFETY, new methods, sales by plant forces, and production measurement headlined the topics discussed at the USITA Plant Conference held on October 14 during USITA's 61st annual convention. General Telephone's Paul N. Malmgren, of New York City, Chairman of the USITA Plant Committee, presided at the meeting in the Waldorf Room of Chicago's Conrad Hilton.

Plant Conference speakers introduced by Chairman Malmgren were: USITA Vice President Hugh A. Barnhart, Rochester, Ind.; R. N. Pepich, safety engineer, American Gas Association, New York City; C. H. Behrens, Telecommunications Div., Renwar, Inc., New York City; F. M. Clark, Rochester Telephone Corp., Rochester, N. Y.; and USITA Secretary George C. Richert, Washington, D. C.

Report of the Plant Committee

CHAIRMAN Malmgren reported that four major problems were discussed at a Chicago meeting of the Plant Committee in May: safety, new methods, production measurement, and plant sales, and it was decided to use these subjects for talks at the October Plant Conference.

Commenting upon the committee's selection of the four subjects Mr. Malmgren pointed out: —

(1) *Safety* is an ever continuing problem in plant operations involving not only a moral responsibility to plant people but proper safety attitudes and training can have a considerable effect on operating costs. In order to achieve the desired results, however, it is necessary to have a continuing safety program and present the safety story in a new and interesting manner.

(2) *New and improved methods of* performing the telephone plant functions are important at all times if the industry is to operate in the most efficient manner, and constantly changing and improved methods of plant construction and maintenance present a challenge to the plant man to keep abreast of these new developments.

(3) *Production measurement* is an important problem in plant operations today. With the continuing increase in labor costs, it is extremely important to make full use of any productivity increases possible through improved methods and machines. However, it is vitally neces-

sary that some form of production measurements be developed so industry members are assured that the anticipated savings are realized.

"The historical approach of comparing operations on a cost per telephone basis," Mr. Malmgren said, "makes it (the comparison) extremely difficult due to different types of plant and differences in the value of the dollar during past periods. A plan was discussed and has since been partially developed to measure some of the plant activities by comparison of productive hours used to maintain or construct plant on a natural plant unit basis. It is hoped this can be developed to a workable plan easily computed that will be of help in plant comparisons to study the effect of further improvements in machines and methods."

(4) *Plant sales* are an important part of the plant job that can have a continuing effect on the company earnings. Proper sales training and full use of all sales opportunities of plant people is necessary.

"A continuing and important function of the Plant Committee," Mr. Malmgren said, "should be in gathering and distributing to the membership all methods of improving plant operations. To increase the value of this service we hope that anyone that either has a suggestion for a new idea or an improvement in a present operation will bring it to the attention of the Plant Committee . . ."

Sales By Plant Forces

THE Commercial Superintendent of Rochester (N. Y.) Telephone Corp., F. Mark Clark, listed the steps Rochester Tel. is taking to improve the sales performance of certain Plant employes.

"At the outset," he said, "we decided to define our objective. We concluded that, for this purpose, our only concern is with face-to-face selling done on the job while completing service orders and repair service assignments in connection with residence service. It will be seen from this that sales made by Plant employes whose work does not require personal contact with residence customers will not be included in the

USITA Plant Committee Chairman PAUL N. MALMGREN, New York City, presided at the Plant Conference.

Plant sales results. To be more specific, our objective is to increase the number of sales made by installers and repairmen which would, of course, include those made to residence customers at the time of set changes while preparing for dial cutovers."

According to Mr. Clark, the steps taken by Rochester Tel. were as follows:

(1) Reported results were analyzed. The reports told who made sales and how many. They also told the company that sales performance was spotty — a few men made most of the sales and a great many made none. This review also brought to light that some men did very well for awhile and then suddenly became non-producers. The reports, however, did not provide any explanation for the variation in performance.

(2) For this reason the men were interviewed to learn how they felt about selling. Some thought it was a good idea. However, investigation revealed that many of these were not selling. Some felt they were not competent, or that they had not received adequate training for selling. For the most part, this group had tried and failed and had become discouraged. Others were openly resentful: they seemed to be hurt by the idea that their technical skills were not sufficient to sustain them.

"After this and much soul searching," Mr. Clark stated, "our group concluded that the whole project could be sabotaged by trying to do too much at one fell swoop. In other words, this seemed to be a spot where dividends would be paid by making haste slowly. Accordingly, we agreed on a few principles which we feel will get the show on the road and which are sound enough to build upon in the future.

"(1) *Make the sales job for installers and repairmen simple.*

"(2) *Establish a unit for measuring their performance.*

"(3) *Revise the reporting procedure to reflect both quantitative and qualitative performance.*

"(4) *Fix the responsibility for performance in supervision.*

"(5) *Recognize that top management must* — (a) *Set standards;* (b) *insist that standards are met;* and (c) *provide the logical and psychological inspiration.*"

Expressing his belief that success in Plant selling, as in any other kind of selling, depends upon asking for the order, Mr. Clark said, "We believe installers and repairmen must be required to ask for an order on every visit regardless of the apparent need or lack of need for an item."

"In other words," he said, "whether the dwelling is spacious or small, or two floors or one, the installer or repairman is required to ask for an order. This approach simplifies the task by removing the element of decision making."

Other features of the Rochester Tel. plan described by Mr. Clark included the following: —

(1) The number of items to be sold by installers and repairmen should be limited to one or two, and Rochester Tel. believes the men will be helped, or their task made easier, if they are provided with a means to get the conversation with the customer started in the right direction. For this purpose, the company asks its men to memorize this statement, "Mrs. (name) if you order another telephone in your choice of color while I am here, you will save the cost of installation. How about one in the bedroom?"

(2) The company does not attempt to teach selling techniques. The memorized phrase does appeal to the desire most people have to buy at a saving, and it does ask for the order

by requiring the customer to accept or turn down the suggested location. However, the installer or repairman is not required to understand the subjective elements in these phrases. Also, the memorized phrase does not employ the word "extension". This is done because even in cases where jacks are involved additional portable sets can be sold. For the present, at least, Rochester Tel. does not intend to involve its installers in "a lot of sales jargon." The company believes that once the conversation is started in the right direction the man's naturalness will be one of his best sales tools — provided, of course, that he wants to sell.

(3) The company requires that the test desk make a record of whether or not the customer was asked to buy whenever an order associated with residence service is completed or a case of trouble cleared. This record is sent to a central point where, at the end of each week, a report covering the activities of all installers and repairmen is prepared and sent to the Plant Supervisors and the Division Heads concerned. This report groups the individuals by supervisors and it shows separately the number of orders completed, the number of repair service visits made, the number of times an order was requested, and the number of sales made by individuals.

(4) At the end of each month, the weekly reports are consolidated showing the performance by supervisor, with respect to asking and selling. The monthly report does not show individual performance. The monthly report goes to the Plant Supervisors, their Division Heads, the Plant Head and the General Manager.

"The main purpose of the procedure outlined up to this point," Mr. Clark stated, "is to fix the responsibility in the plant supervisor for insisting that installers and repairmen do ask for orders. The monthly report enables the General Manager, the Plant Head, and the Division Heads to determine which Plant Supervisors are getting the best performance in this respect. The weekly reports enable the Plant Supervisors to know the number of opportunities by individuals, the number of times each one asked for, or says he asked for, an order and the number of sales reported by each one."

Mr. Clark emphasized that the Plant Supervisors and their Division Heads must be sold on two scores: First, they must be sold on the fact that the company needs to conduct an all-out, hard hitting, and continuous sales effort; Second, they must buy the idea that Plant employes, who come in daily contact with customers in their work, should logically be expected to make use of those contacts for the purpose of selling the items designated by the management, and thereby do their part in helping the company reach its revenue objectives.

Discussing the company's need for a hard hitting continuous sales program, Mr. Clark noted, "If your experience is like ours, you find yourself at this time furnishing main station service to 85% of the households in your territory."

"In the view of many competent economists," he said, "when a market is 80% developed, for all practical purposes, it is saturated. In other words, it's not practical to bring the other 20% into the fold through special sales and merchandising programs.

"Now just what does this mean to us in the telephone business? In Rochester, we think it means that the growth in main station service since the war, with little or no sales effort, to the point where 85% of the households have service indicates that at any given time 85% of the families will, without persuasion, demand service unless some serious and prolonged reduction in their income should occur. It also means that the growth in residence main stations is a function of family formation."

Mr. Clark pointed out that if such a reduction in income occurs, the rate of main station growth must decline if "our bogey is one main station per household."

"Since the rate of family formation has already declined markedly because of the low birth rate in the 30's and early 40's," he added, "there is no immediate prospect of resuming the rate of main station growth, based on one main station per family, that prevailed between 1945 and 1958. In fact it may be 1968 and possibly 1970 before that occurs."

Stressing the fact that unless the telephone industry can find ways and means of increasing revenues per customer its total revenues will level out and its companies will stop growing, Mr. Clark added, "We all know that once any organism, plant, animal, or economic system stops growing it begins to decline and ultimately dies."

"It seems clear," he said, "that telephone companies have no alternative but to sell more to existing customers at least until the next crop of marriages arrives . . . That brings up the question what do we sell. Well, we can sell additional lines for family use in the case of professional people, for older folks living in with relatives and for teenagers. We can upgrade present users to provide faster service and privacy, we can sell more telephones per main station to reduce work, provide greater privacy, to give a feeling of security and to pamper the desire for luxurious convenience — all this for pennies a day. We can add value to service with more listings and through conveniences like hand-free telephones, extension bells, automatic answering service and many other items yet to be perfected . . ."

In summarizing his remarks, Mr. Clark emphasized that "It seems clear to us in Rochester that poor sales results in the Plant Department cannot, in good conscience, be blamed on the craft people."

"Instead," he said, "we believe that a good sales job requires enthusiastic leadership by supervision from top to bottom. When such leadership is coupled with a good follow-through procedure to insure the objectives are met, only one thing can happen and that is success in this endeavor . . ."

EDITOR'S NOTE

Due to the number of papers presented at the 1958 USITA convention it has been impossible to publish all papers in this issue. Papers not presented in this issue will appear in future issues.

Independent Telephony Marches On

(Continued from page 62)

will permit many variations within a practical range. This equipment will help us improve the art of getting intelligence of one kind or another across the miles.

L. D. Transmission Systems Improve

THROUGH the years, telephone research has developed long distance systems that carry more and more information. Years ago, for example, we learned how to send several conversations simultaneously over one pair of wires. Then came coaxial cables that carried several hundred conversations, or, alternatively, a single television picture.

Next came radio relay systems which could handle more information, and improved coaxial cables which could do three times as much work as the earlier ones. And now in the offing we have a new radio relay which will take care of more than 10,000 conversations at the same time or a dozen TV programs, plus 2,500 conversations.

But we still haven't come to the end of this road. Under development in the laboratories is a new kind of long distance transmission system — a hollow copper tube called a "wave guide." This is theoretically capable of handling as many as 400,000 conversations at a time, or several hundred TV programs. Regular use of this kind of system is a long way off and much more development must be done, but the potential is there.

At the same time, we're also on the way to increasing the capacity of many local lines, as distinguished from long distance. Up to now, this hasn't been economically feasible, because all wide transmission highways have required vacuum tubes, and the cost of building and operating vacuum tube equipment on short routes has been too great. Today, however, with transistors and other brand-new forms of miniature electronic apparatus, the prospects are very bright.

What this boils down to is that we can foresee the day when we'll be able to communicate literally *any kind* of information over *any distance*, long or short — every conceivable kind of information such as words, music, pictures, raw data, or mathematical calculations.

Some of the things I've been talking about are starting now, some are near-term prospects, others are farther in the future. They won't all come at once, and they will all take time. But adding them all together, it seems certain that in years to come communication services will be of greater importance to the community than ever before. We'll be serving more people, we'll be serving them in more ways, and naturally as this occurs we'll continue to grow in size and responsibility.

In order to hasten the days when these new things will be practical for common use, engineers and equipment manufacturers, both Bell and Independent, are spending millions of dollars in research and development.

Modern research and development are no longer entirely dependent on isolated individual inspiration. In today's scheme of things, it is a team effort. It takes vast quantities of money, intricate machinery, the best scientific brains that can be developed — all concentrated on the task of producing improvements in a given area.

Research has shown us that electronic switching holds promise of many revolutionary advances not only in telephony but in the entire field of communications and controls. For instance, transistorized switching equipment with no moving parts will increase speeds of data transmission to a degree that seems fantastic in the light of present day equipment. Much equipment will be miniatured to one-fifth its present size. Costs — and this is important — will be reduced right down the line. A host of innovations in telephone service will become commercially practical.

Several important versions of existing products either are in production now or soon will be, thanks to the men of our laboratories. To cite just a few, a dial operated mobile radiotelephone system was tried out successfully this year. While the mobile radiotelephone is not new, this system will enable subscribers to originate or receive local mobile radio station calls without operator assistance. A new and improved dial lighted telephone has just been introduced, along with a transistorized hands-free telephone which eliminates the bulky amplifier and control box.

Today, long distance lines are alive with a variety of traffic other than words. Electrical impulses, routed along telephone circuits, are working all manner of miracles. They are automatically transmitting orders from all over the country to a central warehouse in St. Louis — telemetering the flow of a Texas pipe line — monitoring radio transmitters — flashing burglar alarms — setting type for printing simultaneously in three or four different cities.

Dynamic Growth Is Expected

THIS BROAD new concept of telephone service is one of the factors behind the dynamic growth we can expect for the telephone industry. This concept presents a wide area of challenge and opportunity. Developing equipment to handle, route, transmit and receive this ever-increasing volume of high speed traffic puts a real premium on creative engineering. New jobs will be created; more men and women will be needed to fill them. These innovations will offer new and exciting career possibilities for scientifically and technically trained people in a vibrant and vital industry for a long time to come.

There is not much doubt that the demand for individual line service will continue and even increase throughout the country for many years into the future. Party line service, never popular, is just not adequate today in the average residence where the telephone usage is high. People of this day and age are too impatient to wait their turn in sharing a line with others. This is one of

the many challenges to be met.

How shall we respond to the job that lies ahead? We can respond with boldness and imagination, we are going to have to have good earnings, and that subject alone is a chapter by itself. How can we as a regulated industry build economically for the long-range pull if our earnings are not in keeping with other forward looking businesses so as to allow us to compete with them in the money market? It is basic and fundamental that we must convince regulating commissions of the need for adequate earnings.

To do the job that lies ahead will require various tools and instrumentalities. Those instrumentalities at our disposal include the state telephone associations and our own United States Independent Telephone association, and I want to say to each our Association has increased substantially during the past few years, there is still room for growth.)

It has been my happy privilege to have served as president of both my state association and our national Association, and I want to say to each and every one of you here today that no company can afford not to be affiliated with both his state and national Association. As a member of the Board of Directors of the United States Independent Telephone Association I have long been familiar with its activities. I have known that these activities were fruitful, but I never really realized how fruitful they were until this last year during my incumbency as your president.

Association Performs Many Services

IN TRUTH, I have been amazed and astounded at the many services our Association through our fulltime Washington staff and our committees has performed and is performing every day. I am sure that most of you know what these services are, and time does not permit me to go into detail. The detail accounting is contained in the report of our agile, alert and competent executive vice president, Clyde Bailey. Copies of his report as usual are available for distribution, and I hope each of you will take this report home with you and read it carefully in its entirety.

However, there are one or two matters of importance which emphasize the great work that our Association is doing, and which are of great importance to everybody in the industry. I don't need to tell you that our most important activity, at least the one which means more to us in dollars and cents, is that of obtaining for our companies our proper share of toll revenue.

Full realization of this was what prompted us a few years ago to employ the services of a fulltime Toll Engineer and to set him and his associates up in an adequately-equipped department. This step is paying off, and it will be even more compensating to our companies as time goes on. These innovations and changes that I have been talking about this afternoon are going to make the negotiation of toll traffic agreements with the Bell System more complicated and more necessary than ever.

The problems facing Bell and Independent companies in toll settlement matters are going to be more dependent than ever upon experts in this field.

A constructive start in that direction has been made within the past few months. As most of you know, a task force under the direction of USITA's subcommittee on message toll compensation was called to Washington to prepare a USITA Separations Manual for Independent company use in reaching telephone message toll settlements with Bell System companies. These task force members removed their neckties, rolled up their sleeves and went to work on May 6, and they did not complete their job until August 1.

The new manual, which soon will be ready for distribution, includes separation procedures following the principles set forth in the revised 1957 NARUC-FCC Separations Manual to the extent of their application to Independent company operations. The draft of the new procedures written by the task force includes a detailed analysis of all items to determine their effect on special studies of message toll telephone business interchanged with Bell System companies.

I am confident advantages will accrue to operating companies in the form of substantially increased compensation for the use of our facilities in the transmission of long distance messages. Our Association and the entire Independent industry owe a debt of gratitude to the task force members that we never can fully repay; but I am happy this afternoon to be able to make this public acknowledgment of their important services.

Radio Becomes Increasingly Important

ANOTHER phase of our business which is becoming of increasing importance is the use of radio. Realizing its potential, our Association employed the services of a fulltime Radio Engineer. Those of you who read our Member Letters — and I hope you all do because if you don't you are overlooking a lot of vital information — know that our radio department has not been inactive. In fact, we have suffered so much fallout from the FCC, which is located directly across the street from our Washington headquarters, that you might say we have become radioactive!

Seriously, this matter of adequate radio frequencies for our companies is no laughing matter, and I cannot over-emphasize the importance of it. You will recall that some months ago the FCC served notice that we are to lose frequencies in the 890-940 band which some of our companies have been using for point-to-point services instead of wire lines. While we can still operate on these frequencies, we ultimately will have to give them up because the FCC says they are needed for national defense purposes. As of the present, adequate replacement frequencies have not been allocated by the FCC, but our Association has been and is actively engaged in an attempt to solve this problem.

As most of you know, the FCC did establish a new service effective August 1 known as telephone Maintenance Radio Service. This is a great new application of radio for which we have been fighting for some time,

giving the telephone industry radio frequencies it can use in its construction and maintenance activities separate from those on which it must furnish a service to the public. When these frequencies were granted, our Association was amazed at the number of inquiries regarding them from many of the smaller companies. It is evident that many companies are finding the use of mobile radio in their operations to be of practical and economical value.

So you see we are actively looking out for the interests of Independent companies in the radio field. There is evidence on every hand that radio is to be one of the chief tools of the future as the telephone business tends to get off the ground via land lines and go through the air waves.

Radio and toll compensation are but two of the areas in which our Association concerns itself. Our additional activities are too numerous to detail here, but the fact is our organization is the national workshop, conducted on behalf of thousands of Independent telephone companies, both large and small, that comprise an important segment of the American economy. The Association is the mouthpiece of these companies in matters of common concern arising in various government departments in Washington, in the halls of Congress, and in relationships with the Bell System and other business enterprises. That is why I say that no Independent telephone company can afford not to be actively affiliated with the United States Independent Telephone Association.

Isolationism Can Be Dangerous

THESE ARE times of revolutionary scientific developments, many of them bringing shattering economic and sociological changes; these are days of international tensions, when most nations are striving with often frustrating efforts to establish working principles for a reasonable degree of world harmony. These situations lend emphasis to the need for hanging together in the face of common perils. Isolationism for a single company or a single industry is dangerous.

Whether we like it or not, we shall continue to find ourselves targets of unfair political and economic attacks by the enemies of our private enterprise system. And so today I feel that we have a demonstrable need for a new unity, a new feeling of mutual relationship among those who have faith and confidence, as well as a financial stake, in the private enterprise system.

If we tolerate each other's differences of opinion, if we learn how better to get along with each other, if we adopt the right mutual attitude and spiritual philosophy, we will regard the future as a Great Adventure. Adventure has been defined as a state of mind — and spirit. It comes through *faith* and with complete faith there is no fear of what faces us — in life — or in death.

Faith, we are told, is the substance of things hoped for. With faith, it is as easy to reach the moon as it is to reach for the top of the fence that hems us in — if one mixes with it a little ambition and imagination. Even a child can thrill to the promise: "Ask and it shall be given to you; seek, and ye shall find; knock, and it shall be opened unto you."

We Must Work More Closely Together

RECOGNIZING that our industry is being confronted with a new challenge in carrying out its traditional public service obligation, we will need to work with each other in meeting our problems as we come into our common heritage.

How can we work more closely together? The answer is right here — right in this room. Obviously, this is a role designed and made to order for the industry's state and national trade organizations. Here, in the United States Independent Telephone Association, we have the means and the mechanics, if you please, for checking our progress, for propelling our movement forward, for protecting our common interests, and for jointly facing up to the job that lies ahead.

To grasp the meaning of what our Association can mean to us, you have only to observe the attendance at this convention and consider the program which is before you. What your Association has done in the past year can be done even better in the future if we only realize the potential of this instrument within our hands, our own USITA.

Consider well what has been done about better legislation, better public relations, better employe recruitment policies. Consider well what we have been able to develop by way of sound advice in better accounting, commercial, traffic, engineering and plant practices, and our help to the small companies.

This is the mood in which, I hope, you will appraise all these things unfolding before your eyes and ears at this convention. It is all good; but it could be even better, if we only realize the immensity of the job ahead and the benefits to be gained from active enthusiastic participation in the work of this Association.

Never have we been better prepared for important service to our companies than now. Our *Program of Work* contains a large number of vital projects. With the help of all of you we can go forward to new achievements.

I have confidence that we are going to do these things.

And may the good Lord bless and keep you 'till we meet again!—*Clive W. Haas.*

Engineering Data

A THREE-PAGE engineering data bulletin dealing with new plastic piping material known as Type II ABS has been released by Southwestern Plastic Pipe Company. The pipe, offered in four pressure ratings, represents a development which removes some of the limitations and opens up newer and different uses for plastic pipe.

Applications for oil fields, chemical processing, utility piping, sprinkler systems, conduit, and domestic and agricultural uses are listed in the bulletin, along with physical and mechanical properties, chemical resistance data, flow characteristics, and working pressure charts. For your copy write *Southwestern Plastic Pipe Company, Box* 117, *Dept. TE&M, Mineral Wells, Texas.*

BIG HELP FROM SMALL BUSINESS. H. P. Bitzer (right), Executive Vice-President of American Coil Spring Company, Muskegon, Mich., and Western Electric's Art Betz discuss Western Electric order for spring used in dial of Bell telephones we make (see inset). Over 90% of Western Electric suppliers are "small businesses" like American Coil Spring . . . having fewer than 500 employees

ITS 37,000 PARTNERS

From Maine to California . . . in tiny shops and in giant factories . . . thousands of American companies help us at Western Electric provide things needed for Bell telephone service, and national defense. For their help, these "partners" received well over a billion dollars last year . . . benefiting communities all around the country.

Last year about 37,000 companies employing some five million people helped Western Electric with its job as manufacturing and supply unit of the Bell System.

This supplier "team"—which ranged from blue-chip corporations to three-man operations—reached into 3,165 cities and towns in every state across the nation. More than 90% of these companies were "small businesses" with fewer than 500 employees.

From some came raw materials and parts for our factories where we make Bell telephones and telephone equipment. From others came finished products—everything from paper clips and pliers to paper towels and telephone poles—things we buy for ourselves or the Bell telephone companies. Some of our suppliers provided special services . . . like transportation. Some helped with defense projects entrusted to us by the government.

In return, the Western Electric dollars paid out to these firms—$1,224,000,000 in 1957—helped meet payrolls, pay taxes in thousands of communities. And so, helped spread a measure of prosperity the length and breadth of the nation. Perhaps in your town, too.

Western Electric

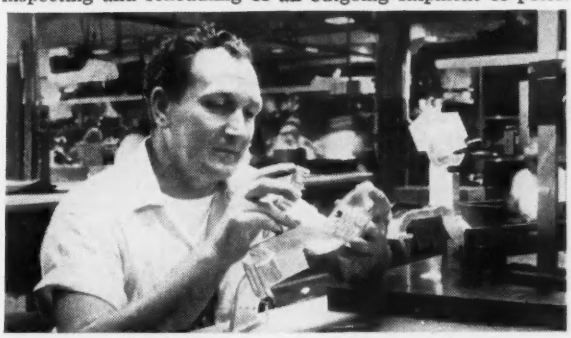
MANUFACTURING AND SUPPLY UNIT OF THE BELL SYSTEM

BIG HAUL. Last year Western Electric's transportation bill totalled 65 million dollars. Among the more than 4,000 carriers which shared in this sum was Scott Bros., a trucking company operating in the Philadelphia area. Western Electric business supported jobs for many trainmen, seamen and freight-handlers—as well as truckers—during the past year.

WIRE IN THE RAW. Part of this mountain of copper bars is destined to be drawn into telephone wire for cable in Western Electric factories. As one of the world's largest users, Western contributes substantially to the economy of such copper mining states as Utah, Arizona, Nevada and Montana.

BOOK-PRINTER. William C. Clegg, head of the Clegg Company of San Antonio, Texas—is one of 67 printers who prepare some 2,600 different telephone directories for the Bell Telephone System. The telephone "book" is just one of thousands of items we purchase for the Bell telephone operating companies.

TALKING TREES. For over 18 years Fernwood Industries of Fernwood, Miss. has helped Western Electric supply telephone poles to the Bell telephone operating companies. Here, Fernwood's L. E. Ramsay and E. C. King complete the final inspecting and scheduling of an outgoing shipment of poles.



NIKE BUILDER. Ralph DiCiurcio works at the Whiting & Davis Co. of Plainville, Mass. He helps make important electronic components used in the NIKE guided missile system. Whiting & Davis is one of many companies which help prime contractor, Western Electric, build NIKE systems for the Army.

USITA Holds 61st Convention

(Continued from page 59)

the Congress a need for a public source of money to provide telephone service for vast numbers of people. I think it must be evident to at least everyone now, that without such a source many people now enjoying telephone service in sparsely settled areas where service by commercial companies was not economically feasible, would be without it today . . ."

Pointing out that all REA telephone borrowers are eligible for USITA membership, Colonel Henry said "Not only are they eligible but our Board of Directors by two resolutions has directed the waging of a campaign to induce REA borrowers to affiliate. The invitation to join is extended to every entity providing telephone service — commercial companies, cooperatives, mutuals, limited dividend corporations, and any others. It does not make any difference what the legal status of a borrower is, so long as it is a part of what we regard as the Independent or non-Bell segment of the Telephone Industry. . . ."

Describing the part USITA played in the enactment of the telephone lending amendment, Colonel Henry said, "That part was one that helped save the Telephone Industry from the beginning of public ownership; it saved the telephone subscriber from the possibility of having duplicated service in many communities and being compelled to pay two separate telephone bills; and it helped make the legislation as finally agreed to a much more workable plan in other important respects . . ."

Referring to USITA's record of service, Colonel Henry emphasized that "when it comes to telephone trade organizations, there is only one real one in the nation."

"It is the USITA which has behind it six decades of service," he said," a kind of service and a quality and quantity of service that have won for the organization the deserved thanks and gratitude of those who have been members, and at least the respect of the few that have been willing to enjoy a free ride without being members.

"Let me emphasize that in dealing with national affairs, there is no merit or advantage whatever in divisiveness. Those providing telephone service, I am confident, will support the trade organization that over the years has delivered the bacon, that has provided a high quality of leadership, that has a full time competent, trained, professional staff, that has well informed and helpful committees that serve as valuable reservoirs of information and advice available upon call, that has numerous monuments to its effectiveness on the legislative battle field and in toll compensation and other matters, and that has demonstrated that it not only has a capacity for real service but actually renders that service and has been rendering it for many years.

"Based on official action taken by our Board of Directors on several occasions, the heart of the USITA is big enough to embrace any company, cooperative, or other telephone organization regardless of its corporate or other identity, and regardless of whether it borrows from the REA, a local bank, individual investors, or an insurance company. The only qualification is that it must be a part of the Independent Telephone Industry, not affiliated with the Bell System . . ."

Reporting there are two "splinter" trade association groups which seek support of their organizations on the ground that they are necessary to protect the 2% rate of interest on REA loans, Colonel Henry stated. "Everyone in this room knows that the present average cost to the Government of borrowed money is higher than that by more than 50%."

"This is a fact of public knowledge," he said. "It is also a fact that the United States Congress in its composite judgement decided that it was in the over-all best interest of this country to subsidize partially the provision of telephone service in certain areas. A little more than a decade ago Congress also enacted the Social Security Laws that are now a part of our economy. When enacted these laws were condemned as being socialistic, but they are now accepted as a part of the Government's program in the interest of the over-all good.

"Congress fixed the present two per cent interest rate in the REA Act. I can envision little if any likelihood that legislation detrimental to the interests of the farmers of this country will be enacted. Congress is not under concerted attack on this issue, and speaking as only one individual Director of our National Association, I foresee no occasion for taking any position on this matter. It is a matter for Congressional determination, and only Congress can change it.

"If the subject ever becomes a live and active one, it will be time enough for our managing body to decide what action, if any, should be taken by the USITA. But in the political climate likely to exist for some time to come, I don't look to see the subject become active."

The Operating Challenge To REA Borrowers

EVERETT C. WEITZELL, chief of the Rural Electrification Administration's Telephone Operations and Loans Division, told the conference REA borrowers are breaking all precedents insofar as the financing and development of rural telephone service are concerned.

"REA borrowers," he said, "as small businesses, are doing a job that many said couldn't be done. But now it is being done — in a manner more complete and more adequate than ever before . . . To many, the developments and accomplishments of the rural telephone companies and cooperatives are astonishing. It is hard to believe that these newcomers are taking their places as full-fledged communication companies and systems with the ability to meet their responsibilities as first-class members of the industry."

Referring to the tendency to attribute the success and progress of REA borrowers to financing alone, Mr. Weitzell emphasized that money alone

is not all it takes to make a rural telephone system successful.

"First," he said, "the company must be large enough to represent an effective and efficient operating unit. Many of our rural telephone systems are still too small, and they should make every effort to expand in keeping with the growing demand for revenues as a basis for operation. However, size is only one of the several factors that may contribute to success or failure. Frequently, we hear it said that the absolute minimum size for a successful telephone company is 500 stations, 1,000 stations, or 2,000 stations All of these can't be correct, and, in fact, none of them is. The particular circumstances involved, including the character of management and the demands for revenue, determine the possibilities for success in any particular case."

Pointing out that the long-term success of a rural telephone enterprise will depend on the quality of service it provides and the soundness of the organization and management which operates it, Mr. Weitzell reported that REA borrowers have pioneered the field in providing adequate engineering, as a basis for their financing program and as a basis for a continued maintenance and operations activity.

"It is not unusual to have it said that the Independent telephone companies got along without all this engineering before REA came along," he said. "We would agree that they got along, but not very well, and part of their lack of progress can certainly be attributed to the fact that adequate system planning was absent from the conventional method of operation. The adoption of basic construction and maintenance standards, which do not permit gold-plating but which provide facilities capable of rendering first-class communications service, should enable REA borrowers to meet the long-term operating challenge in a most successful fashion."

Reminding the REA borrowers and applicants of their responsibility for close supervision of all engineering and construction work Mr. Weitzell stated, "It is essential that established standards be closely followed."

"To fall below is to sacrifice quality and to exceed is to unnecessarily increase costs," he said. "The retention of existing usable plant offers substantial cost reduction possibilities that may frequently be overlooked.

"A major aim of the REA program has been to keep per-station investments at an optimum level and to achieve a standard of construction that will minimize operating and maintenance costs. This, in turn, should make it possible to render service over the long period to the widest practicable number of rural subscribers at reasonable rates. This is the operating challenge which every REA borrower assumes the responsibility for meeting."

Commenting that the job of rural telephony is an industry undertaking, Mr. Weitzell stated, "each of your companies is playing an important part, but the over-all success of our combined efforts will depend on the continuing cooperation and assistance of the larger Independent and Bell companies."

"As Independents," he said, "you should look forward to, and assume the responsibility for merging and consolidating smaller units into more adequate and efficient operating systems. This must be done, however, without 'bidding-up' acquisition prices and without excessive costs of any type. We should do everything in our power to discourage the efforts of some to inflate the value of rural telephone property far beyond its ability to produce."

In his closing remarks Mr. Weitzell expressed his appreciation and the appreciation of his associates for the "cooperation that we continue to receive from all of you, from the Bell companies, from the industry association, regulatory bodies, suppliers, and all segments of the communications industry."

"Without your understanding and sympathetic assistance," he said, "it obviously would be impossible for us to carry out a successful rural telephone program. We trust that we may

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continue to merit your confidence and your constructive criticism in our mutual efforts to extend and improve this most valuable service to the rural people of our country. . . "

A "Question and Answer Forum" concluded the REA Borrowers' Conference. Forum Panelists were: D. B. Corman, Glasgow, Ky.; H. C. Ebaugh, Havre, Mont.; J. K. Galloway, Winter Park, Fla.; and E. C. Gates, Minneapolis, Minn.

"Accounting"

(Continued from page 81)

value of their property, after accounting for all costs of rendering the service "it would seem depreciation expense should include allowance for current dollar values. The investment of the stockholder is in property, not dollars."

(4) The basic system of accounting as required by regulation should be on a cost basis, as at present, without any adjustment for present values. It appears to be well established that the effect of inflation can be best expressed through supplemental statements resulting from special studies and adjustments to the historical cost statement.

Commenting that the value that might be derived from a restatement of financial results designed to reflect present values may be realized only if the results are recognized by tax authorities and federal and state regulatory commissions, Chairman Devoe said, "If the adjusted financial results should be acceptable to regulatory authorities and if rates should be fixed to provide for the additional operating expenses so stated under present tax regulations, the company would need revenues for the entire needs without credit for income tax deductions."

"This is so," he added, "because the present tax law allows depreciation expense based on original costs only. If economic depreciation is recognized as a cost of doing business, it should be recognized for income tax purposes. When depreciation expressed in current dollars exceeds depreciation expressed in original dollars, taxable income as reported is overstated. Such overstatement of income is in effect an inclusion of capital in income and should not be taxed."

Reporting that several reasons have been advanced to explain the present concern by regulated utilities over inflation and its relation to accounting results, Mr. Devoe referred to the belief that the past 130 years of general upward trend of prices will continue.

"A telephone company whose rates are regulated does not have the opportunity to recover an amount to offset the economic losses in pricing its products as does the unregulated industry," he said. "This fact should be brought to the attention of our regulatory authorities so economic depreciation may have consideration as an operating expense and current dollar values may be considered in fixing the rate base."

Stressing that since economic depreciation is based upon *adjusted* original cost, it is unrelated to any of the accelerated depreciation methods permitted for income tax purposes, Mr. Devoe emphasized that the accelerated depreciation methods do not meet any of the objectives of the economic depreciation concept.

"The report of the N.A.R.U.C. Committee on depreciation in 1954," he said, "rejected all proposals for recognition of economic depreciation. It found that the long-established cost basis is sound, practical and equitable and should be continued. The Committee believes the development of the economic depreciation concept emphasizes the necessity for recognition of current value in rate fixing by regulatory authorities. A current value rate base would recover in a degree the loss of stockholders' equity realized through failure to fully state depreciation expense under present accounting rules. . . ."

Pointing to the need for an educational program to acquaint industry members with the effect of inflation, the Accounting Committee Chairman suggested each company give consideration to the problem as it applies to its own operation.

"There is no doubt," he said, "that inflation has serious implications and it appears there are available means of determining the approximate degree of the effect on each company. Available statistics show us that several telephone companies have more than doubled their investment in telephone plant during the past 10 years and some have nearly tripled their plant investment. It is obvious that these companies' accounts are more nearly on a current dollar basis than many others that have not experienced this rapid growth and development. There would be wide differences in the effect of the adjustments for economic depreciation among the telephone companies."

Method of Adjustments And Use Of Indices

STATING that the price index most often recommended is the Consumers' Price Index, Chairman Devoe said, it is selected not because it necessarily reflects prices paid for telephone equipment but it appears to most accurately measure the changes in the purchasing power of the dollar.

"The use of price indices appears to be the most practical and simple method of establishing the amount of economic depreciation." he said. "If the dates of installation for all of the property have been recorded, it is a simple process to convert the dollars of original costs to current price levels by using the appropriate price index number for each year and applying the current depreciation rate to the adjusted cost dollars. If the installation dates of plant are unknown, satisfactory results may be obtained by other means."

Emphasizing that every operating company should be informed concerning economic depreciation, Mr. Devoe warned "we are prohibited by regulation to depart from presently authorized accounting rules and practices."

"In any event," he said, "it is much simpler and will serve our immediate purpose if we confine our efforts to sound methods of adjusting balance sheets that will show the approximate effect of inflation on depreciation accounting."

Stating that the subject of Economic Depreciation becomes involved, Chairman Devoe listed the following unfavorable aspects: —

(1) *In the event of a decline in price levels, adjustments of historical cost accounts to current values might reduce the plant accounts and increase the income balance because of consequent lowered depreciation expenses.*

"The importance of such an event in relation to a long-range consideration of the subject is difficult to evaluate," he said. "In passing, however, it might be said that some proponents of the economic depreciation concept contend that the history of price levels of the past 130 years have very seldom receded to previous low points but have had a steady upward trend.

"This fact, it is pointed out, indicates that any leveling off or increase of the purchasing power of the dollar would be for a short term which would not change the long term future trend. The report of the Project Committee to the E.E.I. and A.G.A. Depreciation Committee expresses this viewpoint on this subject: 'Those who foresee a severe depression at some future date should be fully as interested as those who do not, in pressing for recognition of economic depreciation in rate making'. . . ."

(2) *Indentures of mortgage covering funded debt restrict distribution of earnings.*

"One such indenture," he said, "provides that 'the company covenants that it will not declare or pay any dividend (except dividends payable in shares of stock of the company) on any shares of its stock of any class if the aggregate amount so distributed after December 31, 1945 would exceed the aggregate amount of the net earnings of the company, properly available for the payment of dividends, accrued subsequent to December 31, 1945 plus the sum of $250,000. . . . If the company affected by this indenture should contend that the economic depreciation theory is the sound basis for stating depreciation expense, would the trustees under the above indenture question the legality of dividends paid?"

(3) *In the event that plans are made for debt financing, a statement of earnings showing amount available for interest would be required.*

"Would statements based on economic depreciation adjustments be available and adversely affect the financing plans?"

(4) *Personal property assessments in many states and communities is a very important item.* Would the plant investment accounts adjusted to current values result in additional tax expense?

In view of such considerations, Mr. Devoe reported the Accounting Committee has recommended that USITA authorities appoint a standing Committee to deal with the general subject of economic depreciation.

Mechanization In Toll Ticketing and Billing

THE Secretary-Treasurer of Northern Ohio Telephone Co., Bellevue, Ohio, W. H. Todd, told the Accounting Conference the tremendous station growth and volume of toll traffic offered after World War II and continuing in the early 1950's have made it necessary to initiate studies for the further mechanization of the Revenue Accounting job.

"These studies," he said, "indicate that a major portion of the economy of the mechanization lies in developing source information that can be read by machine. Since toll tickets comprise the largest proportion of such source information, they are the biggest problem. It is an accepted fact that billing for local service charges are readily adapted to a punched card method of handling."

Reporting that a number of the Independent companies have either installed or are considering the installation of central office equipment to handle direct distance dialing, Mr. Todd stated that the installation of DDD equipment by various areas of the Bell System makes it doubly important that the Independent segment continue to keep pace by engineering and installing the most modern equipment.

"In the years immediately ahead," he said, "various studies reveal that the installation of DDD equipment will only mechanize about one half of the toll message volume and the balance will still be operator ticketed. This condition made it mandatory that studies be conducted to develop methods of converting toll tickets into a form that could be read by machines."

Mr. Todd stated the studies indicated key punching from manually prepared toll tickets was too expensive and did not provide the type of billing service required.

"This method of handling toll tickets," he said, "makes each ticket a new source item each month and repetition of use could never be realized. The only methods which seemed to be practicable were to 'capture' the operator pulsing by means of some forms of operator AMA, or have the operator write the information in machine readable form. Since mark-sensing is a means of allowing the operator to write in machine-readable form, and accounting equipment to process mark-sensed tickets is now available, a trial of this system was undertaken. All other systems require extensive equipment design and will probably not be available for some time."

Mr. Todd emphasized that a trial of mark sensing should have at least the following objectives: (1) Determine the economics and feasibility of a system of mark sensing toll tickets by the operators at the switchboard; (2) conduct tests at operator training positions; (3) assemble the information developed by traffic, commercial and accounting operating methods; and (4) evaluate the results.

Mr. Todd suggested that in introducing mark sensing to the Commercial Department the following items should be considered:

(1) Mark sense tickets are larger and more bulky which creates a filing problem. One way to eliminate this problem is to trim the ticket to regular toll ticket size. Another alternative is to retain the mark-sensed tickets in a centralized point and furnish information to the commercial personnel when requested.

(2) There are definite advantages in having the mark-sensed toll tickets interpreted in the accounting operations, especially if customers use an

extensive number of toll calls monthly.

(3) If mark-sensed tickets are to be forwarded from the local exchange to a centralized point for billing and later returned to the commercial office for reference purposes, it is necessary to secure appropriate mailing containers.

(4) The transportation of mark-sensed tickets is more costly and inconvenient than is experienced with the present type of ticket. Arrangements should be made with the Public Information Department for bill inserts which should inform the subscriber that he is to receive a new type of toll bill and local service statement.

"The Accounting Department is certain to inherit its share of problems in this program," Mr. Todd stated. "Basically, the mark-sense card must be designed to provide the same information it does a 1A ticket. It contains mark sense positions for the operator to record the originating station, the class and type of call, the conversation time and some means of recording the terminating point. Two methods are most commonly used for the latter, the first being to have the operator mark the area code as well as the C.O. Alpha designation. The second method is to assign mark-sensing positions to the most frequently called points and provide for key punching those points which are not listed on the card. Some 55 terminating points can be shown on any given card and this number will provide for an extremely high percentage of calls from any toll center."

Reporting on the Bell System's trial installations at Woonsocket, R. I. and Pottstown, Pa., Mr. Todd stated these trials "have been most successful and the Bell System is proceeding to the conversion to mark sensing which they expect to have completed by the end of 1960, with major metropolitan areas completed by the end of 1959.

"Several larger Independent Companies," he said, "are also installing mark sensing programs to coordinate with tabulating equipment not in use. The general acceptance of tabulating equipment and a trend by the industry to mark sensing requires a standardization of the toll ticket card to be prepared by the operator."

In his closing remarks, Mr. Todd emphasized that it is obviously of importance to the industry that tickets sent to another company be standard with respect to size, punch field layout and the interpreting field layout.

"The mark-sensed card," he said, "can be furnished in its entirety to companies now using mark-sensed equipment or the card can be trimmed to 1A ticket size which will include all the information required by any revenue billing center. It is suggested that Independent Companies planning to introduce mark-sense ticketing consult with their connecting Independent or Bell company to assure coordination and attain such assistance as is needed . . ."

Paper presented by John J. Donovan of the California PUC will appear in a future issue.

Commercial Conference

(Continued from page 73)

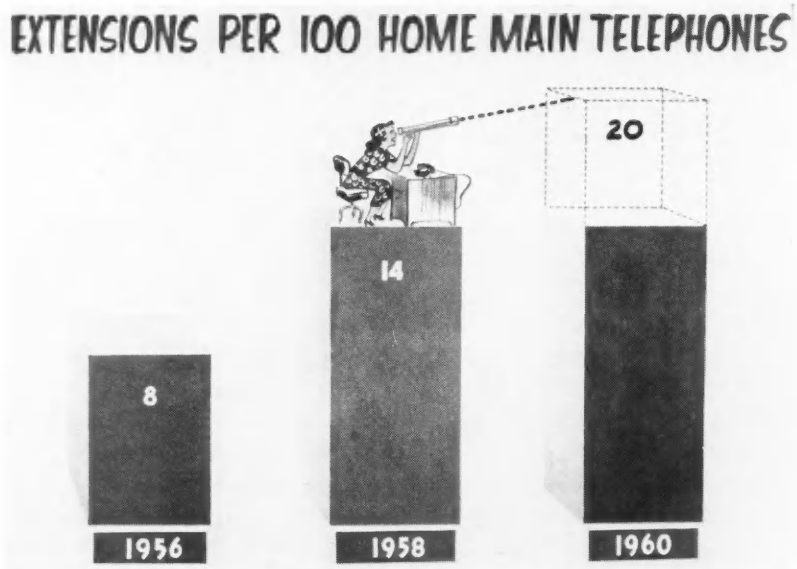
completed. We found it essential that each supervisor check continuously on the sales opportunities and results of her people.

"Many sales opportunities are presented to service representatives on incoming calls. We found that even inquiries about bills and long distance calls presented sales opportunities. One of our service representatives made a sales opportunity out of a complant concerning the non-delivery of a new directory. She expressed regret, arranged for a telephone book to be sent out immediately and turned the contact into a friendly discussion of the customer's telephone usage. She sold an extension.

"In another instance when a customer called to complain about receiving nuisance calls at night and stated that he had to get out of bed and walk downstairs each time, the service representative sold him an extension for his bedroom, thus making his inconvenience more convenient. We have found that approximately 50% of the incoming calls to the Business Office can be turned into sales opportunities."

Emphasizing that Hawaiian Tel. was not satisfied with only the opportunities offered on incoming calls, Mr. Kea reported that in June of this year, the company set up a special team of three representatives who are doing initiated selling.

"This team has been calling customers about upgrades and extra listings," he said, "and has used these contacts for developing complete service needs. Many sales have resulted. During August, each girl sold an av-



Hawaiian Tel. Co. chart showing extension development since 1956, and objective for 1960.

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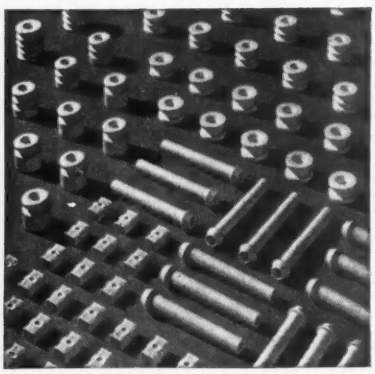

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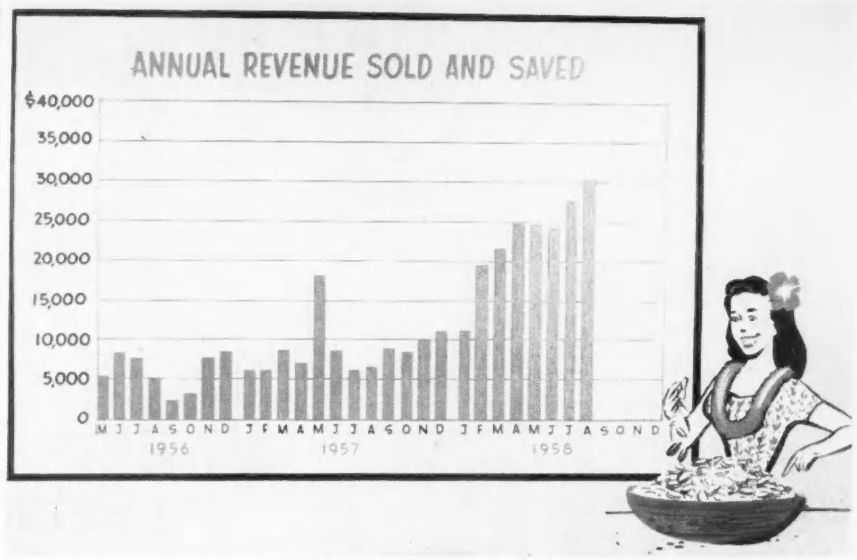

Chart showing annual revenue sold and saved monthly as the result of Hawaiian Tel. Co. service representative sales effort since May, 1956.

erage of $117.00 per day in new annual revenue."

Reporting the results of the program, Mr. Kea stated that since 1956 (1) Annual revenue sold has amounted to $318,197 and sales each month are currently amounting to approximately $30,000; (2) service representatives sold 9,007 residence extensions and are currently selling over 500 per month — an annual rate of 6,000; (3) residence extension development has increased from 8 extensions per 100 residence main stations at the start of 1956 to a present development of 14; and (4) other accomplishments include the sale of 1,240 extra listings, 11,943 colored instruments, 3,526 upgrades, and 1,048 disconnects saved.

"Our people have done more than increase revenues," Mr. Kea said. "They have given our customers the best service which we could offer. They have visited by telephone thousands of homes and offices counselling and planning — designing a service for each individual, as they listen to complaints, explained bills and gathered helpful comments. And in doing this, they have added new interest to the Business Office job and given all concerned a highly satisfying feeling of worthwhile accomplishment. Although we are gratified with these results in terms of better service and increased revenues, we view the future with even greater enthusiasm as we look forward to being the 50th State of the Union . . ."

Ed. Note: The paper presented by Mr. Nenzel is published in this issue (see page 65). The paper presented by R. Parker Sullivan will appear in a future issue.

Engineering Conf.

(Continued from page 75)

switching systems, customer toll dialing facilities, automatic toll ticketing equipment, and a host of other types of apparatus and systems which soon promise to include electronic central offices and line concentrators."

"In fact," he said, "the telephone man now cannot afford to be ignorant of these things, because they represent labor-saving and cost-reducing techniques without which his business cannot long survive."

Discussing the place of the operating telephone company engineer, Mr. Reese stated that "In this day of unavoidable specialization, he is the applier, using new components and systems to create the telephone communications systems which will provide the service his company is called upon to render."

"At the same time," Mr. Reese said, "like all engineers, he has a creative responsibility, too. His is the perception to recognize the need for specific improvements and advances and new instrumentalities for the communication network. His counter-

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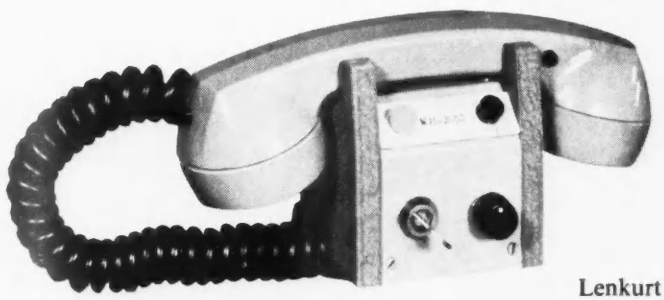

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part in the laboratory and factory must then bring science to bear on these recognized needs to develop new components for the system and devise tools and methods for producing these components in quantity. The telephone company engineer then closes this never-ending cycle by applying the newly-created instrumentality. . . ."

Describing the telephone engineer's job as a "never-ending one," Mr. Reese said, "He is responsible for determining how much and what kind of material and equipment should be purchased, and when and where it should be placed."

"His creation is never quite complete," he added, "It is constantly being enlarged, improved upon and replaced. His new components are often different from those in service, yet he must fit them all into a smooth-working, well-integrated system.

"And his is a big job. This year the gross addition of the General Telephone System construction program will be 190 million dollars. The program of the entire Independent industry is probably in the neighborhood of 500 million dollars, and of the industry as a whole, over 2.7 billion dollars. Depending on your company's size, your program is a proportionate share of this overall figure."

Commenting that the telephone engineer is constantly facing decisions Mr. Reese stated the following factors influence decisions made by the engineer:

(1) *Quality of service versus cost of service.*

(2) *Capital versus expense.*

(3) *Standardization versus progress.*

(4) *Today versus tomorrow.*

"The telephone engineer," he said, "not only must have a knowledge of technical things, but he must guide his management by planning the step-by-step investment in plant so that it will render the maximum amount of revenue-producing service at a minimum of expense, and in such a manner that future changes, additions, and advancements in the art may be incorporated without major impairment of previous investment."

V. N. VAUGHAN, Jr., data and teletypewriter planning engineer, AT&T Co., New York City, discussed "Data Transmission" at the USITA Engineering Conference.

Explaining that in the engineering department of the larger operating companies, the engineering responsibility rests in the Plant Extension section, Mr. Reese listed the following Plant Extension functions:

(1) A long-range planning function exists to keep abreast of new developments in the telephone art and the application of these developments, which offer improvements in service and further economy of operation.

(2) Another function of Plant Extension work is that of developing current plans to indicate the way in which scheduled plant additions and rearrangements shall be made, so that the fundamental plan will be reached in the most desirable and economical manner.

(3) Finally, the construction budget responsibility. While this responsibility may be less formally in existence in the smaller companies, it nevertheless must exist. The construction program together with its periodic revisions is prepared by correlation of estimates submitted by the engineers charged with a specific responsibility. Plant Extension work includes the maintenance of schedules and analyses required for supervision of the construction program. Current specific orders prepared for authorization of projects are reviewed to assure coordination with the construction program and with general plans previously determined. Special studies are made of the effect of the construction program on plant investment in operations.

Summarizing, Mr. Reese stated the telephone engineer's job becomes increasingly necessary as fixed plant investment more and more replaces the high expense of manual operation.

"Thus," he said, "the expense of labor which may be varied in accordance with the business cycle is, to an ever-increasing extent, replaced by the fixed charges of the labor-saving plant investment. *No*, engineering is not an evil, because good engineering doesn't cost; it pays . . ."

See page 69 for Mr. Tompers' paper, and page 67 for Mr. Stacey's paper. Mr. Vaughan's paper will appear in a future issue.

"In The Distance"

(Continued from page 70)

A compromise plan has been adopted which established minimum practicable loss in a toll circuit. This minimum loss is known as 'via net loss.' What is via net loss? — To attempt to state it as simply as possible and in broad terms, via net loss is the minimum measured in db which a circuit can be operated when switched at both ends to other circuits without objectionable noise, crosstalk, singing or echo. It assumes that the circuit to which it switches will have 2 db or more loss between the switch and a local telephone office.

"Talker Echo"

AS I MENTIONED earlier, our ear seems to automatically tune itself to such things as crosstalk, singing and echo, which rise as a definite distraction, so these must therefore be removed or surpressed to the point where they are tolerable. Of the four, echo is usually controlling in the design of intermediate switching links. Designing a circuit to hold echo within the range of customer tolerance in loudness and delay will, in a majority of cases, meet the requirements for singing, noise

and crosstalk if standard transmission designs are followed.

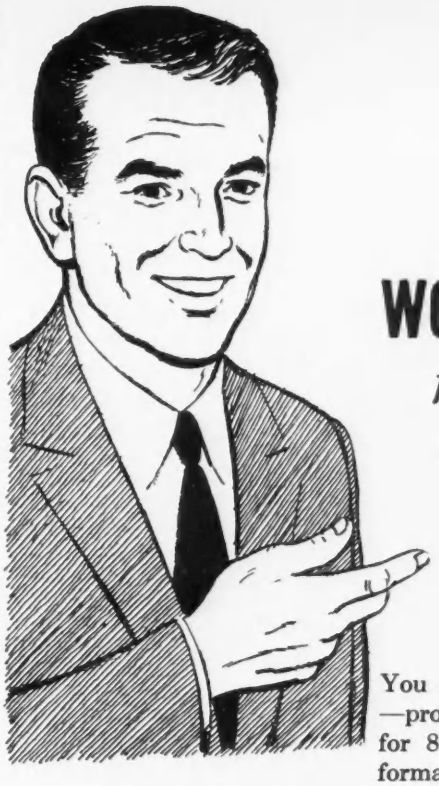
Echo is just what the name implies. Acoustical echo is the effects of sound bouncing back from physical obstacles. Many of you undoubtedly have heard it by calling into a canyon, or against a mountain range, or into a lake surrounded by trees on on an early morning. Electrical echo results from currents bouncing back from electrical obstacles in a telephone path. In either case, the obstacle is a mismatch in impedance encountered by the signal. In telephone conversation, echo delay is an important distraction factor. The longer the delay, the more the distraction. Considerably louder echos will be tolerated if the delay is short. While both the talker and listener may hear echos, the talker echo is usually controlling in the telephone circuit design.

There are usually three factors involved in determining the loudness and delay of talker echo: (1) Circuit loss talker to electrical obstacles including the far end. (2) Circuit loss from these obstacles back to the talker. (3) Return loss at the electrical obstacle.

Return loss is the loss in db between the power of the reflected signal, due to mismatch, and the main signal. When the mismatch occurs, the main signal is said to arrive in impedance discontinuity. Obviously, if the two impedances at any one point are perfectly matched the return loss in infinite. In this case, no energy or superfluous signals are received. The old technique of added loss to overcome echo does not meet requirements of the switching plan of today. The switching plan of today makes the "voice in the distance" as constant in quality as the voice across the conference table.

"Via Net Loss"

WHAT ABOUT via net loss? What are its applications? How do we determine it? The via net loss of a circuit may be obtained by multiplying the circuit length by a value called the 'via net loss factor' and adding 1 db for variations of the individual sections of the circuit, if we follow recommended design procedures



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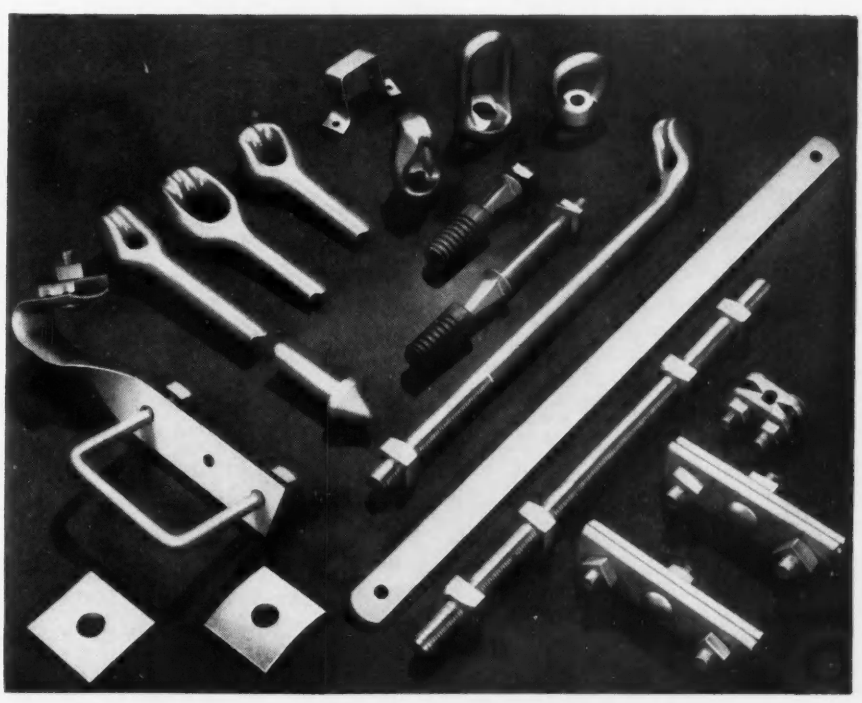

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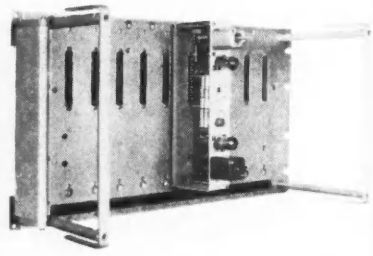

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which meet crosstalk, singing, and return loss limits. This gives the via net loss at which each circuit can be operated. This holds true regardless of the number of lengths in action.

Via net loss factors are computed from a statistical analysis of customer tolerance to echo and the transmission characteristics of the circuit. As I have said, loudness and delay play an important factor in the customer tolerance to echo. Therefore, decreasing the objectionable effect of echo, decreases the via net loss factor.

Via net loss and via net loss factor are available for either 2-wire or 4-wire circuits. However, 4-wire circuits have no intermediate return loss paths and may, therefore, be worked at lower losses. It is necessary at this point to explain the difference between 4-wire and 2-wire circuits.

Basically a 4-wire circuit utilizes one pair of wires to talk and one pair of wires to listen. Obviously a 2-wire circuit uses the same pair to talk and listen. Four-wire circuits minimize echo return, and for that reason are recommended in via net loss operation of intermediate switching links.

Does this mean every trunk needs two pair? No, but 2-wire circuits, except for circuits to end offices, must use approved 4-wire termination sets.

Four-wire termination sets are used to convert one-way, 4-wire circuit or 2 frequency, 2-wire circuits back into two-way, 2-wire circuits. Basically they consist of a balancing transformer and a balancing network. By a balancing transformer, we mean a hybrid coil. The balancing network is sometimes a part of a hybrid coil and sometimes a separate unit from the 4-wire set.

Hybrid coils provide a means of converting 4-wire to 2-wire with a minimum of reflection between the transmitting and receiving. No simple solution is available at this time for 2-wire circuits not equipped with terminating sets, although an office balance factor has been devised for the purpose of intertoll trunk design. We will discuss this office balance factor later on.

In order to establish minimum practical loss for the shortest possible circuit, it must be remembered that an intertoll trunk may be operated in one or two conditions: (1) When the trunk is terminated in a telephone set at one or both ends through local plant, it is said to be in a terminal condition; (2) When the trunk is in an intermediate link in a switch connection and both ends are extended by other trunks, it is said to be in the via condition. For practical reasons the trunk must be used for both terminal and via service.

By introducing a loss at the end of an intertoll circuit, in its terminal condition, it is possible to utilize this circuit for dual operation. Such a loss is achieved by adding pads to build out the loss in trunks to local offices to 2 db. The minimum practicable loss for the shortest possible circuit operated at via net loss will have a loss of at least 4.4 db. This is 2 db for each terminating loss plus .4 db variation factor. This is assuming, of course, that our echo delay factor is zero.

In considering the longest circuit to be operated at via net loss, the statistical and technical side of via net loss rears its ugly head. In a brief discussion of this kind reliance on statistics and technical terminology is not only boring it is in most cases probably foolhardy.

To those of you in the process of going via net loss or contemplating joining the nationwide network in the years to come, I would suggest a thorough study of the many fine texts available from manufacturers and the Bell System on various equipment required. For the purpose of this talk, however, it is necessary to discuss briefly the problem of office balance.

The 2-wire office is said to be equivalent to a 4-wire switching office if the average return loss for all intertoll trunks is equal to 27 db or better. Two methods of obtaining this equivalency is by drop and network building out so that the compromise network will match the impedance of all paths through the switching office. If this balance is not achieved, a 'b' factor is assigned the

switching office to provide the same echo performance as the 4-wire switching office. This 'b' factor is applied to intermediate switching offices only and not to ordinary toll centers (Class 4 offices).

Naturally, it is desirable to avoid the need of assigning a 'b' factor since this would only add loss to each switch connection. If this occurred at a number of offices on any one connection, the number of calls whose transmission loss would be too high, would reach an unsatisfactory amount.

In determining proper via net loss, several considerations must be applied in the designs of intertoll trunks. The loss can be computed in intertoll trunk design by using the following equation: Via net loss equal to via net loss factor, times the length of link in miles, plus .4 db plus the 'b' factor.

It may be necessary to permanently connect facilities of many types in tandem to form a link. In such cases, the via net loss factor for each type of facility is multiplied by its length and the via net loss for the length is the sum of these products, plus .4 db, plus the 'b' factor.

Now some of you are going to via net loss operations and there are several things, of course, that must be considered. There are certain equipment rearrangements and additions that are usually required. We quote from *page* 139 in the Pacific Telephone & Telegraph Company's report "*A Survey of Telephone Transmission*" in which these items are listed:

(a) *'S' pads are removed from the intertoll trunk equipment.*

(b) *Primary centers (Class 3) and offices of higher rank require an average office balance of 27 db (for the standard deviation of 3 db or less). Two-wire switching offices having a lower balance, usually require office balancing.*

(c) *Trunks to local offices having a 1000 cycle facility loss of less than 2 db require a 2 db pad at the switching point.*

(d) *Loaded terminal lengths using H-88 or loading of lower cutoff frequency having over 2 db 1000 cycle loss, do not require pads, but must be equipped with impedance compensators.*

(e) *Non-loaded terminal lengths usually require 2 db pads regardless of facility loss.*

(f) *Terminal lengths operated on a carrier, and those equipped with hybrid type voice frequency repeaters, require no special treatment. (Lengths employing 'E' type repeaters are treated as if they were non-repeatered).*

(g) *In trunk equipment using 120 type coils, the drop side blocking capacitor is made one microfarad to improve low frequency return loss.*

(h) *Operator telephone sets usually require a modification in the receiver circuit..*

Improving The Service

NOW THAT we've discussed the the via net loss plan briefly, let's go back for a moment to the plain, simple problem of providing our telephone customers increasingly improved service. Let us stick to just the transmission part of the service problem. As I stated before, the customer wants something better than he has now. As I also stated, it is fantastic what has happened to our industry since its birth and I guess most all of us are ready to recognize that anything can happen in the future, and certainly continued improvement must be forthcoming.

How do we do it? As far as we know at this time, there is no panacea, no shortcut, there is no bright light to point out to us a sure-fire transmission improvement plan to end all plans. But there is a clarion call that we can all heed — this "voice in the distance" demands to be heard. Not by the strained ear in a quiet, tomb like office, but it longs to be heard loud and clear despite the distraction noises, etc., and despite alternate routing.

The problem itself can be stated simply without the use of superfluous platitudes. We must assign our trunks, our local loops to make it possible for customers 3,000 miles apart to talk as naturally and as pleasantly as customers within the same town. We must provide talking paths with very small transmission losses

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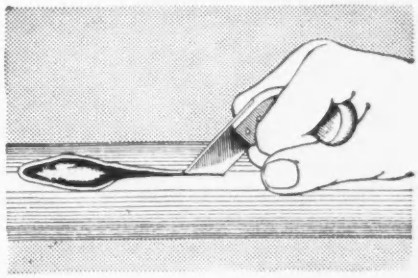

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that are rugged and cheap. Our telephone sets, our electronic devices, must be continually improved. If we use switching we must not allow wide variations in transmission between alternate paths. In nationwide toll dialing we have the dream of the future within our grasp. Via net loss will guarantee the consistency of quality, long sought by telephone people, and the "voice in the distance" once again will have the quality of the person at your elbow.—*D. J. Tompers.*

"Highway Relocation"

(Continued from page 68)

Liaison Benefits To The Highway Administrator

(1) Completion of highway projects with no delays occurring because of utility facilities interfering with road construction.

(2) Lower bid prices for construction by contractors.

(3) Elimination of claims against the state on the part of the contractor for delays and added costs.

Liaison Benefits To The Utility

(1) It is easier to get changes made in preliminary plans than in the final plan after it has been approved by a state bureau.

(2) Continuous service to the utility customer is more easily maintained.

(3) Since relocation costs to a small utility can at times be financially disastrous, liaison is of extreme importance to permit advance arrangement of financing.

(4) It becomes possible for the utility to plan the work so as to acquire the necessary materials in an orderly manner and to schedule adjustment or removal of facilities at a time convenient and efficient for work crews with a minimum cost for the entire operation.

Sample Plan For Liaison

PRIOR TO attending today's meeting I made personal contact with more than a dozen of the telephone utilities operating in my home state and asked whether they were encountering difficulty in liaison regarding the highway program.

Each company contacted, ranging in size from almost 1,000,000 telephones down to 500 telephones, reported that it was obtaining adequate information well in advance of required relocations. Therefore, I feel it would be helpful if I described briefly how this liaison is conducted in one state:

(1) *This state develops a five-year planning program for highways.*

(2) *In advance of final selection of the route for a highway change a public meeting is held and the state bureau notifies each of the utilities involved.*

(3) *A selected route is submitted to city councils and county supervisory bodies for their comments and approval. Following this the route is submitted to the Highway Commission for adoption. These actions occur three to four years before construction.*

(4) *The state bureau gives the utility a sketch showing the state's ideas of the necessary changes or routing.*

(5) *The utility makes its own suggestions.*

(6) *Finally, a written agreement is consumated containing the changes and allocating the costs.*

Frequently the state supplies the utility with a rough print of the proposed route upon which the utility enters its facilities and returns the print to the state.

Frequently the state makes preliminary examinations to determine how expensive the plant is that is to be relocated and sometimes changes routes to avoid expensive relocations.

In my opinion, people are really more important in cooperative liaison than the type of organization and procedure that may be officially established. Nearly any arrangement works well when cooperative and objective people with sincerity of purpose are involved. Nothing work-

when the reverse is the case. Uniformity of practice in every state is impossible. But uniformity of desire to effectively accomplish a job on the part of the utility and the state alike is possible.

This discussion was entitled Reducing Federal Highway Plant Relocation Costs. I have deliberately said nothing about the controversial question of reimbursement for Federal Highway Relocations. My purpose has been accomplished if you now go home with one single idea — to save money by developing the best possible liaison between your company and the governmental bureaus responsible for the Federal Highway Program in your community.

Telephone people are rugged individualists. Our operations have frequently been brought up by the efforts of one man or one family. Our rugged, individualistic, owner-operator frequently operates without the benefit of the specialty personnel such as right of way agents or outside plant cost accountants. All of this information must be carried under our hats.

I know one such man who operates a telephone company with 80 miles of pole line in the Sierra-Nevada Mountains of our State of California. He can tell you how many woodpecker holes there are on the top of the 39th pole out from the central office and he can tell you what size pipe was used in the underground crossing at Five Corners out on the state highway.

It is even true that despite the fact that the underground dip has been present beneath the state highway for the past fifteen years it is not recorded in any files other than the memory of the utility manager. And it is probable that our utility manager considers that he has plenty to do without going to the state capitol or even the county seat to discover what plans there may be for highway relocation two or three years from now in his community.

We have news for the telephone man. He must face the new facts — if he is going to reduce his costs of highway relocation he must dial "information" and find out what is go-

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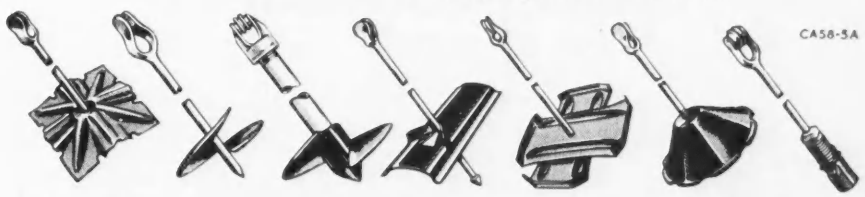

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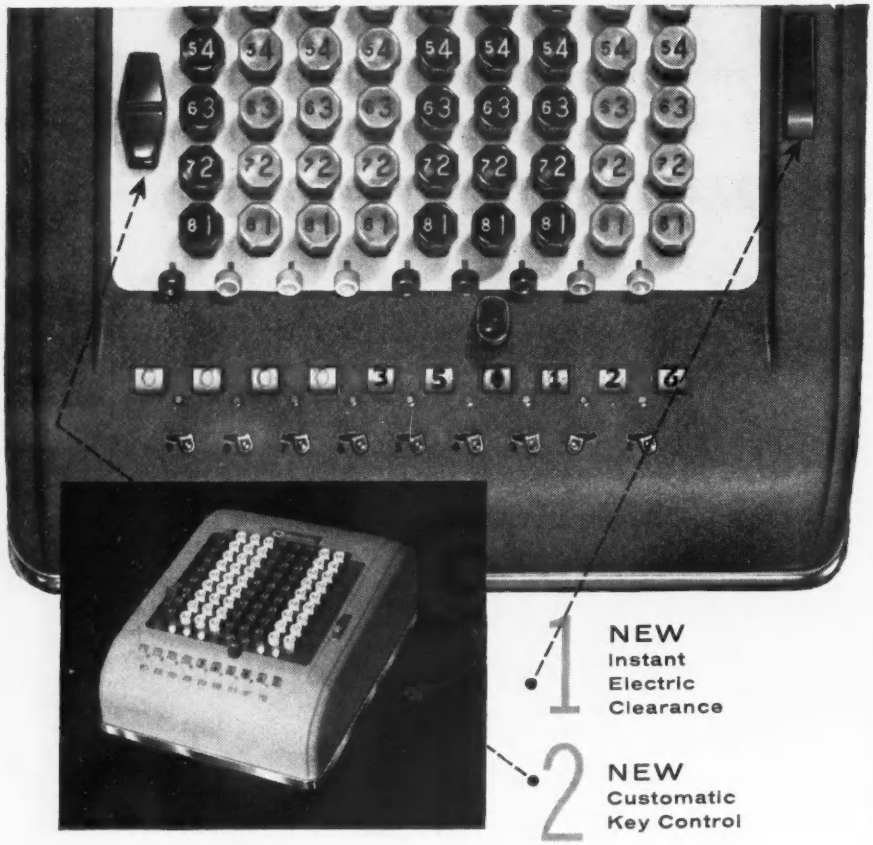

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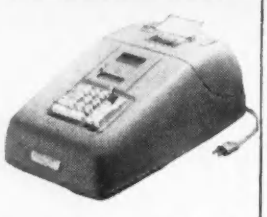

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ing on. If he does not have the time to become inquisitive, then his state telephone association secretary must assume the job. Somebody has to be "in the know." Let us go home from Chicago and find out what's going on in our own communities in regard to highway relocation. — *Allan R. Stacey.*

"Adequate Earnings"

(Continued from page 66)

The "Fair Value" or "Current Cost" Rate Base

ONCE AGAIN the question can be logically asked — what are we going to do about it? The question cannot be answered categorically. Those companies which have been required to raise large sums of new money each year have not been in a position to take a risk of several years' delay in obtaining rate relief while they are appealing a Commission decision through the State courts or even the United States Supreme Court. Furthermore, some Commissions have endeavored to give recognition to the decline in the purchasing power of the dollar by increasing the rate of return so that the "end result" provided adequate earnings on the common stock equity.

However, irrespective of what our immediate situation is we must face the fact that a proper "end result" can be maintained through a higher rate of return allowance only for a limited time. As decreased purchasing power of the dollar necessitates higher and higher rates of return to attain this "end result" the public will in time rebel against what they would deem excessive rates of return as they would relate the rate of return on pre-inflation investment dollars to the return they are earning on their current dollars.

If a Commission provides an adequate number of total dollars to meet the financial requirements of a company, which in effect is the "end result" theory, and divides those dollars by a "fair value" rate base which recognizes current cost, the resultant

Please turn to page 106

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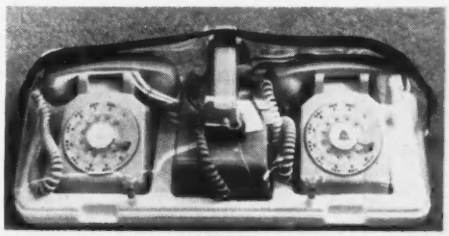

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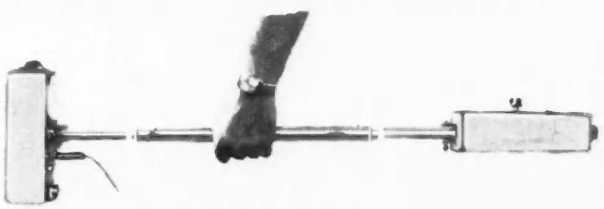

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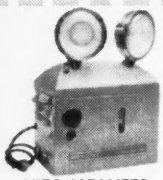

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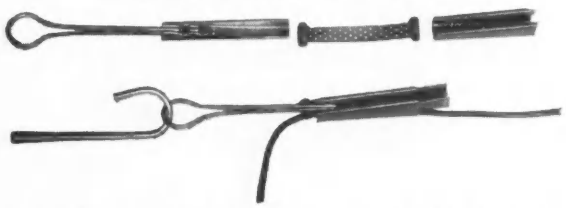

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rate of return will be lower than if applied to a "net investment" rate base.

Therefore, it appears that the public relations angle of this aspect of maintaining adequate earnings alone will ultimately force the use of fair value or current cost as a rate base.

In order that we might better visualize the impact inflation has had on plant costs I have developed a hypothetical situation assuming a telephone company with $1,000,000 of plant at December 31, 1957, further assuming 25% of this plant was installed in 1945 and the balance installed in equal amounts in each year through 1957.

To these amounts have been applied an index of telephone plant costs developed by the Valuation Section of the California State Board of Equalization. This agency has the task of making annual estimates of fair value on utility properties, including telephone, and, therefore, the index can be considered on the low side. Even so, the current cost on this hypothesis is $1,388,000, or 39% more than the original cost. If a larger portion of capital was installed in 1945 or prior years naturally a greater discrepancy would exist.

In view of all the implications, it appears that if we are going to adequately protect our stockholders and prevent the erosion of their investment through loss of purchasing power, we must in the future once again get present value reinstated as the proper rate base. We must not let expediency dictate our procedures forever. Remember, growth is not attractive to investors unless such growth is translated into increased earnings per share.

The road ahead for regulated industry in maintaining adequate earnings will not be an easy one. Public resistance to higher prices will increase but I am sure we will meet this challenge with the same vigor and enthusiasm with which we have met the problems of the past and we will keep our dynamic industry in a strong competitive position so that we can meet our public duty, that is rendering the best possible service at the lowest possible price.—*P. A. Nenzel.*

Special Emphasis News Section

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★ Section Four — "Industry Statistics" 120

"WASHINGTON OBSERVATIONS"

By ROLAND DAVIES and FRED HENCK

Editors of "Telecommunications Reports"

FCC suspends interim increase in private line teletypewriter rates by AT&T and Western Union . . . . Examiners issue initial decision on Menomonee Falls acquisition case.

FCC Suspends New Teletypewriter Rates

- **Suspension does not erase prospects for interim increase in private line teletypewriter rates by AT&T and Western Union.**

PROSPECTS that the nation's common carriers will be able to institute an interim increase in their private line teletypewriter service rates have not been entirely erased by the Federal Communications Commission's order suspending until next Jan. 1 the proposed new tariffs of the American Telephone & Telegraph Co. and the Western Union Telegraph Co.

The FCC, although it suspended the tariffs, in effect left the door open for rate adjustments of a lesser amount than those initially sought.

The Commission said that "although the record in the proceedings herein supports the need for some increase on an interim basis in the charges for the private line telegraph services of both AT&T and Western Union, pending the conclusion of said proceedings, the (tariffs) present questions as to whether the amount of additional revenues which the increased charges may be expected to produce is justified on such interim basis by the record to date."

There was no immediate indication from AT&T or Western Union as to their next move, but the FCC's favorable comment about "some" interim increase immediately led to speculation that they will seek to file tariffs providing for lesser increases than the 26% overall boost asked by AT&T and the 23% rise sought by Western Union. The order gave no clue as to the level of "some" increase which the FCC believes that the record in the private line case supports.

Special permission to make new filings would be required, since the FCC, in suspending the tariffs until Jan. 1, 1959, specifically provided that no changes should be made in

PRESS-TIME BRIEFS

COMMITTEE of union members has been appointed by Pres. Joseph A. Bierne of Communications Workers of America to "review employment situation & impact of technology on jobs" in communications industry. Union said during 1st half of 1958 number of jobs declined by some 22,000, while number of Bell System telephones rose by about 1,000,000 . . . Cincinnati & Suburban Bell Tel. Co., Cincinnati, Ohio, asked Securities & Exchange Commission to register $25 million of 35-year debentures due Oct. 1, 1993. They will be offered publicly at competitive bidding . . . Federal Communications Commission suspended proposed increases in rates for private line teletypewriter services. Hikes had been scheduled to become effective Oct. 1. Suspension orders to American Tel. & Tel. Co. & Western Union Telegraph Co. directed that no changes in rates be made prior to Jan. 1 . . . British Commonwealth agreed Sept. 24 to build "round-the-world" telephone cable link that will make global telephone call "as clear as one to next door neighbor." In decision, likely to make Canada pivot of communications world, delegates to Commonwealth Economic Conference at Montreal decided in principle to build globe girdling telephone & telegraph cable service, covering all commonwealth countries. $246,400,000 system is to be completed by stages over 10-year period.

the tariffs during the suspension period.

By its order, the FCC granted leave to intervene in the private line case to all organizations which filed acceptable petitions to suspend the tariffs and which had not previously been granted permission to intervene. In this category would fall the American Trucking Associations, Chicago Board of Trade, Chesapeake & Ohio Railway Co., Continental Air Lines, Inc., McLean Trucking Co., New York Central Railroad Co., Northwest Airlines, Inc., Pan American World Airways, Inc., and Pre-Fab Transit Co., of Farmer City, Ill.

In a separate order, the Commission upheld an earlier ruling of Chief Hearing Examiner James D. Cunningham which limited the intervention of recent petitioners whose requests had been granted. Mr. Cunningham's order bars the intervenors who were not present at the previous hearing sessions from participating in the cost study portion of the case. They are not precluded from entering into other phases of the hearing, or from proposed findings and oral arguments on all parts of the case, including the cost study.

In this group are such organizations as the New York Stock Exchange, American Stock Exchange, New York Cotton Exchange, American Newspaper Publishers Association, Commodity News Services, Inc., Teleregister Corp., Trans-Lux Produce News Corp., Trans-Lux Corp., and Trans-Lux Movie Ticker Corp., National Association of Broadcasters, and Cargill, Inc.

Intervenors since the start of the case include Aeronautical Radio, Inc., which like NAB and Cargill did not ask suspension of the tariffs, the General Services Administration, United Press International, and the Department of Defense.

The Commission's order suspending the tariffs said it appears that the filings "contain certain changes in rate structure resulting in charges the lawfulness of which cannot be supported by the evidence of record to date." It was understood that the FCC believes that no evidence has been submitted to support such changes in rate structure as the elimination of loop and drop charges and substitution of a channel terminal charge; elimination of supplemental service; elimination of a special equipment charge for spares; and changes in clock hour rate divisions, all contained in the AT&T tariffs.

In a brief reference to competition, the FCC said it appears that the filings "raise questions as to the effect of such tariff schedules on competition in the field of private line telegraph services." It has been pointed out that AT&T's rates for circuits generally would result in lower costs for a customer than those of Western Union, while Western Union's equipment charges on the whole are below those of AT&T.

The order contained the usual accounting requirement in a tariff suspension order, directing the carriers to keep records of all amounts charged or collected under the tariffs if they go into effect at the end of the suspension period, assuming that the FCC has not reached a decision on them at that time.

In their answers to the suspension petitions, AT&T and Western Union had pointed out among other things that the requests for suspension simply did not meet the issue of whether the carriers should be expected to continue providing the private line services at rates of return which at best are running in the 1-2% area.

In general, the petitioners for suspension emphasized the impact the proposed tariffs would have on their costs.

Examiners Issue Initial Decision on Menomonee Falls

- **Report favors Wisconsin Tel. Co. acquisition of Menomonee Falls & Lisbon (Wis.) Telephone Companies.**

SERVICE advantages to the persons in the territory of the Menomonee Falls and Lisbon, Wisc., Telephone Co.'s clearly require FCC approval of the application of the Wisconsin Telephone Co. for a certificate of public interest in its acquisition of the properties, two FCC hearing examiners have concluded in an initial decision.

The ruling will become final in 50 days after issuance unless exceptions are filed with the Commission or unless it decides to review the case on its own motion. The examiners were Chief Examiner James D. Cunningham, who conducted the hearings on the proposed transaction, and Charles J. Frederick, who assisted him in writing the decision.

The examiners held that the present service conditions "have been shown to be intolerable; the high quality of the service which would be available in the immediate future, plus additional subsequent improvements, is not only highly desirable but absolutely necessary to conform to and comply with the communications scheme of the locality as well as of the nation as a whole."

On the basis of the record, they declared, "this Commission should not require postponement to an undetermined time the expansion of a telephone company (operating a large metropolitan exchange) to surrounding and contiguous territory when an Independent company operating in surrounding and contiguous territory is either unable or unwilling to provide adequate service — solely on the ground that some other Independent should be substituted for the backward incumbent company."

Pointing to the US Independent Telephone Association's view expressed at the hearings that Independents should be permitted to take over other Independents where feasible, the FCC examiners said that the Menomonee Falls and Lisbon companies "have utterly failed to do what USITA contends the Independent companies are capable of doing in the way of service. Both the Independents and the Bell associate concerned were openly aware of this situation. Both were on actual notice that the properties were up for sale. Even now, there is no business offer (which either the Wisconsin Public Service Commission or the FCC could take regulatory cognizance of) from any Independent to acquire the properties in question.

It is plain, the initial decision stated, that there was nothing in the hearing regarding Bell System acqui-

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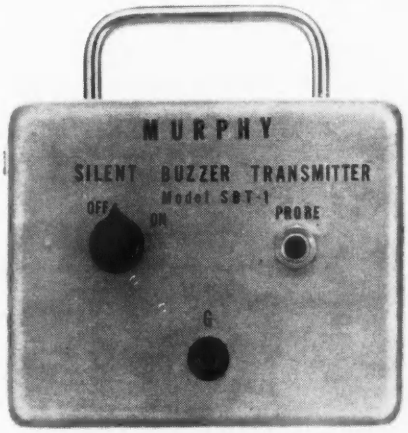

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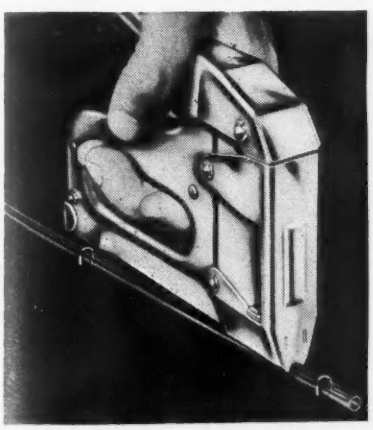

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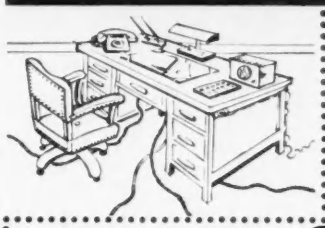

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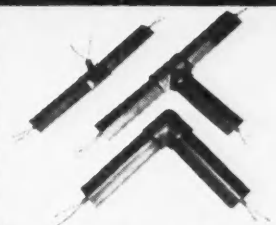

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sition policies "from which it may be inferred that the present acquisition is not in the public interest. The facts of the presently proposed acquisition, including the quality of the service features now existent and those promised by (Wisconsin Telephone), reject the proposition that a general policy pronouncement which would preclude consumation of the transaction should be made at this time."

Discussing USITA's comments on the Bell System's acquisition policies, the examiners said the "cogency" of the association's view that the Bell System interprets the Hall Memorandum "is not a contract; it is not binding upon AT&T or any Independent; it is not a representation to any state or federal regulatory body; but, most importantly, it does not appear from the facts of record in this case that the propositions advanced in the memorandum have been deviated from in concluding the transaction."

Wisconsin Telephone, the examiners added, "presents the further argument which finds favor herein; that, if the Bell companies knew that they would have to sell other desirable telephone properties elsewhere, in order to make acquisitions" — under a policy of selling a Bell exchange to an Independent for each Independent exchange acquired by Bell — "such Bell companies would be extremely reluctant to buy distress properties. Such an obligation, (Wisconsin Telephone) argues, could only have the effect of denying or at least delaying adequate telephone service in the light of possible antitrust complications — a situation which Congress intended to overcome by the enactment of section 221(a) of the Communications Act."

In this case, they continued, the General Telephone Co. of Wisconsin "had ample opportunity to acquire these properties and was either unwilling or not able to negotiate on a basis financially satisfactory to the owners. The implied contention that the owners should have persisted in contacting General to the end that a deal might have been consummated with General would place too onerous a burden on the vendors merely for the sake of adherence to a policy espoused by the Independent without, in this case, other valid reason"

Important FCC Hearing Coming Up . . . .

- **Telephone industry members protest application of Central Freight Lines for private point to point microwave communications system.**

SIGNIFICANCE attached to the upcoming FCC hearing on the applications of Central Freight Lines, Inc., for a private point-to-point microwave communications system between Dallas and Fort Worth, Tex., not only by the common carrier communications industry but by another group of common carriers, the trucking industry, has been pointed up in two filings with the Commission by the American Trucking Associations.

Asking to intervene in the hearings, scheduled to begin Oct. 24, ATA said the "importance" of the Central Freight applications "transcends the interests of the applicant itself and vitally concerns the entire motor carrier industry."

Central Freight's applications have been vigorously protested by communications common carriers, and the Southwestern Bell Telephone Co. and Western Union Telegraph Co. have filed notices to take part in the FCC sessions, declaring that adequate common carrier communications facilities are available between Dallas and Fort Worth.

In its other filing, a request to the FCC that it suspend the common carriers' tariffs in the private line rate case (see above), ATA noted that the "right" of the trucking industry to provide its own point-to-point facilities "was questioned" in last year's microwave radio policy and allocations case by the communications common carriers.

"Yet the same carriers," ATA declared, "by this rate increase, would place the motor carrier industry's access to teletypewriter circuits still further beyond its reach and, in many cases, reduce the present utilization of these facilities because of the increased cost. Thus, the motor carrier industry may be faced with a situation in which it cannot make full use of common carrier teletypewriter facilities because they are too expensive, while it is expected by the Commission to look to the communication common carriers for the satisfaction of its point-to-point communications requirements" — *Roland Davies and Fred Henck.*

Cook Electric Names Welsh Vice President

WILLIAM T. WELSH has been named vice-president and sales manager of Cook Electric Co., Chicago.

Before joining Cook Electric, Welsh spent 18 years with Raytheon Manufacturing Co.

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Part Two—Special Emphasis News

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★ Warren, Ohio, Rate Ruling Due In Nov. 112
★ Bell Declares Microphone Unit Is Part of System 114
★ General of S. E. Requests N. C. Rate Increase 118

"COURTS and COMMISSIONS"

By JOHN G. REYNOLDS

Managing Editor, "Telephone Engineer & Management"

West Coast banker tells Oregon PUC that to make Pacific Bell's common attractive to investors, company's rate of return must be high enough to improve earnings.

Witnesses Support Pacific Bell Rate Request

- **Inflation cited as a basic problem faced by Pacific T. & T. in its Oregon operations.**

INFLATION is the basic problem faced by Pacific Telephone & Telegraph Co. in its Oregon operations, E. S. Walling, general studies engineer, testified at a hearing at Salem, Ore., last month in which the company is seeking an increase of rates which will produce an additional $405,000 a month revenue. The hearing, which opened last month, was conducted by Oregon Public Utility Commissioner Howard Morgan.

Walling said that the rising cost of labor and materials used to operate the business cause an immediately apparent reduction in the company's earnings. Another less apparent effect of inflation, according to Walling is the ever-increasing cost of equipment for each new telephone that is added.

"As a result of these higher costs of construction over a 11-year period the Oregon interstate net investment of equipment serving each telephone has more than doubled to $260 per telephone," Walling said.

Walling said he expected the upward trend in the cost of net plant per telephone to continue. He said the company estimates it should spend 115 million dollars on its construction program in Oregon during the next five years but added that if past experience is any criterion the prices of labor and materials will continue to rise.

Harold M. Phillips, vice president, first National Bank of Oregon, testified that to make Pacific Telephone & Telegraph common stock attractive to institutional investors the company's rate of return must be high enough to materially improve earnings. Phillips said his investment de-

CROSS-COUNTRY BRIEFS

Woodhull (Ill.) Community Tel. Co. applied for certificate of public convenience & necessity covering portion of territory presently served by Nekoma (Ill.) Swbd. Assoc., Illinois Bell Tel. Co. requested authority to purchase certain telephone exchange plant & property from Coal Valley (Ill.) Mutual Tel. Co. . . . Francis X. Lang appointed chairman of Massachusetts Dept. of Public Utilities. Former Chairman David M. Brackman continues as commission member . . . Wisconsin's Public Service Commission denied (Sept. 19) a rehearing to Wisconsin Tel. Co. on its appeal of commission order discontinuing telephone business rates to rooming houses. The commission earlier ordered company to apply residential rates to rooming houses in place of business rates. Telephone company appealed order as unfair . . . Bill making it illegal to use telephone for purpose of annoying, harassing or molesting another person or his family, either through indecent language or malicious action, will be sponsored by the Ohio Independent Telephone Association when the Ohio General Assembly convenes in 1959. New bill, if enacted into law would provide for fines up to $500 or jail sentences not to exceed six months, or both . . . Application of General Tel. Co. of Illinois for $3,603,000 annual rate increase was suspended Sept. 23 by Illinois Commerce Commission & set for hearing Oct. 28 in Springfield. Rates would apply to 262,662 customers of the company . . .

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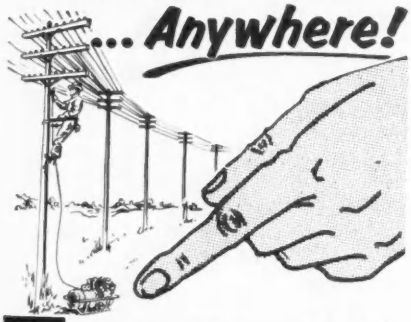

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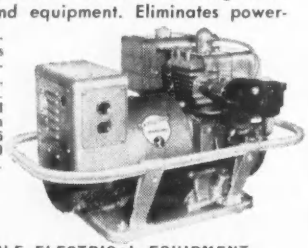

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STEWART BROTHERS

Division of Instrument Laboratories

Chicago 10, Illinois

partment had not purchased Pacific Telephone common stock for pension funds, trusts or other accounts managed by the First National Bank of Oregon for the past 10 years.

The reason for this, he said, was that the market action of the stock had been relatively unfavorable, that the earnings had not shown enough improvement, that the earnings had been inadequate from the standpoint of increasing the dividend, and that the level of earnings had not been such as to build up the company's surplus.

"The institutional investors are probably the predominant segment of the investment market today," Phillips averred.

R. W. Mason, assistant vice president of the Pacific Tel. & Tel., testified the telephone company is a greater investment risk than the average electric company.

"A basic difference between the telephone company and electric businesses," Mason said, "is that the telephone company furnishes a service while the electric business sells a product."

He also said the electric business depends primarily on development of natural resources for producing its product while the telephone company relies to a greater extent on the development of people.

"The basic differences between the telephone and electric business, when combined with certain economic differences, causes telephone earnings to be far less stable than those of the electric business," Mason testified.

Warren Ohio, Rate Ruling Due in Nov.

- **Washington economic consultant tells Ohio Commission it should grant Warren Tel. 6.9% return.**

IF THE Public Utilities Commission takes its usual six to eight weeks after a rate increase hearing to announce its decision, the Warren (Ohio) Telephone Co. may know the fate of its rate boost application some time in November. The company is seeking rate boosts ranging from 30 to 100% in Warren and from 30 to more than 100% in Newton Falls.

Paul E. Hampton, chief engineer for the PUCO, told members of the state agency last month that it should use a valuation base of $13,703,141 in determining new rate schedules. The company set $17,361,337 as its rate base valuation as of Jan. 1, 1957. The PUCO valuation is $3,658,196 under that of the company, or about 21% less.

William M. Wasick, Akron rate consultant who is assisting the city of Warren in its fight against the proposed increase, recently told the PUCO the company is entitled to a rate boost but not to the degree that it seeks.

Dr. J. Rhoads Foster, Washington economic consultant who testified for the company, told the PUCO it should grant Warren Tel. Co. a 6.9% return on its valuation base of $17,361,337 while Wasick said the new rate of return should be somewhere between 4.62% and 6.29% on the PUCO valuation of $13,703,141. The present return rate is 4.46% on the PUC valuation.

Hampton told the PUCO that its engineers and auditors had deducted $2,477,359 from the reproduction cost proposed by the telephone company and had figured a depreciation of 10.01% against the company's figure of 5.74% to account for the $3,658,196 difference in valuation. The valuation is based on what it would cost to reproduce the plant as of Jan. 1, 1957.

J. Robert Jones, counsel for the company, in cross-examining Hampton attacked the methods used by the PUCO engineers and auditors in arriving at the valuation base but Hampton said he felt it was correct.

Jones was especially critical of the manner in which the PUCO had set up general overhead allowances, units, costs and depreciation in arriving at its rate base valuation figure.

Counsel for the company brought out that the PUCO employes had not made an actual appraisal of the company's valuation as was done by the company itself, but had based its findings on schedules set up by the PUCO for reproducing telephone company installations with more than 10,000 customers.

Under Ohio law the company is

entitled to earn a fair and reasonable rate of return on its rate base valuation. The commission has seldom approved a rate of return in excess of 6%.

New Depreciation Rates For Long Lines Dept.

- **Overall effect of revisions is a net reduction of $4,100,000, or 6.7%, in depreciation charges on an annual basis.**

AS A RESULT of a joint review and discussion with the American Telephone & Telegraph Co., and as part of its continuing program of reviewing depreciation rates of the companies under its jurisdiction, the FCC Sept. 17 ordered revisions of depreciation rates previously prescribed for the AT&T Long Lines Department.

The revisions reflect both upward and downward adjustments in individual class rates, but the overall effect is a net reduction of over $4,100,000, or 6.7%, in depreciation charges on an annual basis. In line with instructions issued to other Bell System units, Long Lines was directed to file annually, schedules of estimated replacements of facilities, to keep the FCC informed on the program of replacing existing switching equipment with electronic systems and other new developments.

At the same time, the Commission prescribed, for the first time, a depreciation rate for the furniture and office equipment of the AT&T General Department. The depreciation rate is 4.6%.

New Rates Granted Cassadega (N. Y.) Tel.

- **Operating expenses up about $6,850. New rates will produce $4,950 additional annual revenue.**

WITH operating expenses up about $6,850 the Cassadega (N. Y.) Telephone Corp., on Sept. 1 increased its rates 60¢ monthly for residential service and $1.00 monthly for business service and estimated the new rates will produce about $4,950 additional annual revenue to partially offset the boost in operating expenses.

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ice to about 700 stations in and near Cassadega, Lily Dale and Stockton, all in Chautauqua County, N. Y. It also provides toll-free service to the Sinclairville exchange of Jamestown Telephone Corp., and to the Fredonia exchange of Dunkirk & Fredonia Telephone Corp., thereby enabling its subscribers to call about 5,100 additional stations in those communities.

New Rates OK'd For Cape Vincent (N. Y.) Tel.

- **75¢ boost in monthly rates will increase revenues about $4,600 annually.**

FACED with a $2,200 boost in operating expenses the Cape Vincent (N. Y.) Telephone Co. took its story to the New York Public Service Commission and proved its need for additional revenues to meet increased operating costs, continue adequate service, and earn a fair return on its investment.

As a result on Sept. 1, with full commission approval, Cape Vincent Tel. increased its monthly rates by 75 cents. The commission estimated the new rates will produce about $4,600 additional annual revenue from the nearly 600 stations served by the company in and near Cape Vincent.

Bell Declares Microphone Unit Is Part of System

- **'Microphone control unit' would be integral part of telephone system and is clearly banned by foreign attachment rule, Bell reply declares.**

A "MICROPHONE control unit," designed to permit a private branch exchange switchboard operator to use her operator's headset to call someone over a paging or intercommunication system while an incoming telephone message is held on the PBX board, is "an integral part of the telephone system" and is clearly banned by the Bell System companies' tariff provisions dealing with foreign attachments, it was stated last month.

The comment was made in the answer of the American Telephone & Telegraph Co. and Southern Bell Telephone & Telegraph Co. to a complaint filed with the FCC by the American Radiotelephone Research Group, Norwood, Mass. (*Telephone Engineer & Management, Sept.* 1, 1958, *page* 43).

The device, the Bell companies declared, "Would be inserted between the operator's headset and the switchboard by direct electrical connections, as well as by physical connection . . . and would form an integral part of the telephone circuit. The quality of the device and of its operation would therefore directly determine and affect the quality of telephone service, and malfunctioning therefore would result in deteriorated service or in failure of service through the switchboard."

In their filing, the Bell companies denied that the microphone control unit is the only such device on the market. On the contrary, they said, "it is a simple matter to provide a satisfactory switch for performing the purpose which the so-called 'microphone control unit' is designed to fulfill and that (they) provide various types of such switches, including pedal-operated switches, for use in connection with other facilities which they provide."

The Bell companies further stated that "since any switch of this kind becomes an integral part of the telephone system, the facilities of which must, in the interests of quality, safety, continuity, and economy of service, be under the control of the telephone company, it should be furnished only by the telephone companies, and (they) plan that they are prepared to offer such switches to their customers for use with customer-provided paging systems under appropriate tariffs whenever any substantial need and demand therefor appear."

Revised foreign attachment tariff provisions of the telephone companies, under which devices furnished by others which suit the customers' convenience are permitted if they do not harm telephone service, plant, or personnel, do not affect the current situation, the filing declared.

The Bell companies commented that nothing in the court decision in the Hush-A-Phone case or the subsequent FCC order "affected in any way the principles making it the

duty of the telephone company alone to provide all the facilities of service used in the rendition of services offered in its tariffs, and these principles remain fully effective."

Other permitted customer-owned equipment cited in the complaint, such as telephotograph equipment and voice recorders, are connected by devices furnished by the telephone companies, and have no effect on the provision of telephone service, the filing stated.

Kansas Co-op Asks Rate Increase OK

- **Craw-Kan Tel. Co-op requests new rates to offset increased operating costs.**

THE CRAW-KAN Telephone Cooperative, Girard, Kans., has asked for an across-the-board rate hike of 50¢ per month per subscriber at its Girard, Arma, Cherokee, Weir, Hepler, Hiattville, Farlington and Brazilton exchanges.

Present rates were authorized on an interim basis under bond when Craw-Kan converted its exchanges to dial operation, and were thought to be adequate. The co-op has experienced increased costs in every phase of its operation, however. One of the biggest has been taxes.

Present rates were based on estimates of $12,000 property taxes. This year's taxes will exceed $18,000, and when the plant is completed next year, property taxes will be over $31,000 per year.

Rate Boost Granted West Valley (N. Y.) Tel. Co.

- **Company lost $908 in '57. New rates should boost revenue $3,450 annually.**

IF EVERYTHING goes as planned the West Valley (N. Y.) Telephone Co., which reported an operating loss of $908 in 1957, will soon be operating in the black with $3,450 in additional annual revenue.

This changing of a loss figure into a profit figure started Sept. 1 when West Valley Tel. put into effect its commission-approved tariff increasing rates by amounts ranging from 50¢ to $1.50 monthly to the 330 sub-

eliminates radio interference

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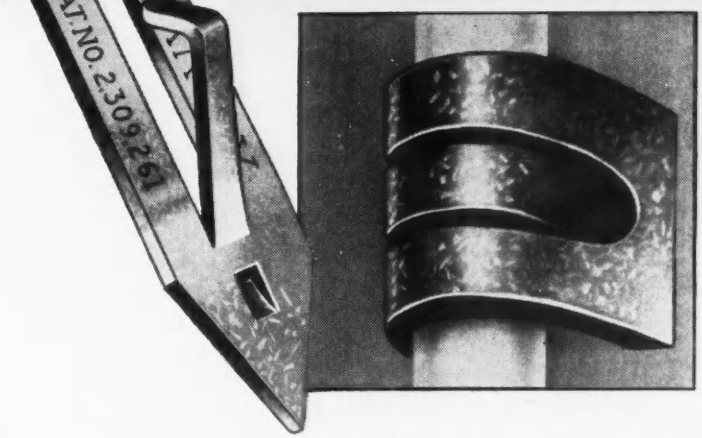

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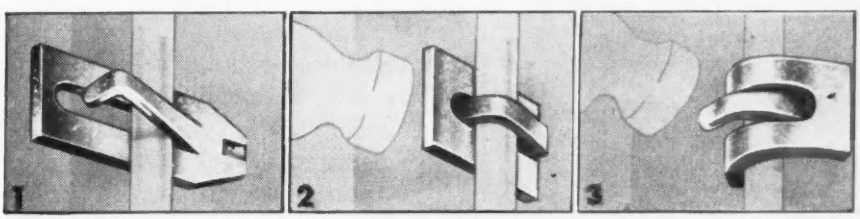

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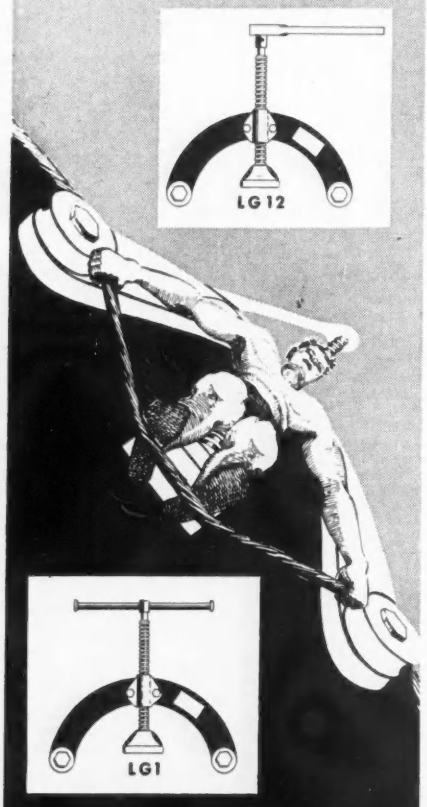

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scribers it serves in and near West Valley, Ashford Hollow, East Ashford and Riceville.

The new tariff provides for these rate increases: Residential service — individual line, $1.40; 2-party line, $1.50; 5-party and rural service, 75 cents. Business service — individual line, $1.50; 2-party, 75 cents; 5-party and rural, 50 cents.

West Valley's rate base went from $35,000 in 1957 to $124,250 as a result of its conversion to dial service on Aug. 15.

Kansas Commission OK's Rates, Area Transfer

- **Rate boost granted Barnes Tel. Co. Permanent rates approved for Wilson Tel. and Bushton Tel. Richmond Dial Tel. takes over Princeton area.**

AUTHORITY was granted by the Kansas Corporation Commission (Sept. 3) to the Barnes Telephone Co., Barnes, to raise its monthly rates by $1 for all types of service. The annual increase of $3,288 will be used to make plant improvements.

The commission also allowed two telephone companies to make permanent the rates they have been charging temporarily, under bond, since converting exchanges to dial service. They are the Bushton Telephone Co., Bushton, and the Wilson Telephone Co., Wilson, for its Sylvan Grove exchange.

Richmond Dial Telephone Co., Richmond, was allowed to take over the area serviced by Princeton Mutual Telephone Co., Princeton, which voted to disband.

Comments Back AT&T Accounting Proposal

- **Agreement in principle with FCC proposed rulemaking on accounting treatment of payments for termination charges voiced in comments.**

AGREEMENT in principle with a rulemaking proposal suggested by the American Telephone & Telegraph Co., and advanced by the FCC in late July, affecting accounting for amounts paid by customers of common carriers for special termination charges, was voiced last month by several organizations in comments filed with the Commission.

In general, the commenting parties — AT&T, the US Independent Telephone Association, General Telephone Service Corp., the Rural Electrification Administration, Hawaiian Telephone Co., and California Interstate Telephone Co. — concurred that termination charges should be charged to depreciation reserves, as a form of insurance, rather than credited to revenues.

An alternative proposal by the FCC staff, by which common carriers would be able to continue to credit revenues, but under a broadened definition of the extraordinary plant retirement account which would permit an offsetting charge to investment, met with little enthusiasm from the commenting organizations.

AT&T Comptroller A. L. Stott declared "It appears to us that the termination charges which are designed to reimburse for capital costs in particular cases are from an accounting viewpoint different from other charges for service. It is true that they are authorized charges associated with rendering service, but so special and contingent in nature as to be in a class by themselves."

AT&T and USITA did not go along with an FCC proposal to impose a $10,000 minimum on payments to be given the proposed accounting treatment. AT&T said a more flexible limitation, such as "for other than relatively minor amounts," would be preferable, while USITA contended that "any monetary limit would be discriminating and would deprive small telephone companies of proper accounting treatment of the termination charges in many cases. We believe that the principle of crediting the depreciation reserve with the termination charges in the circumstances described is sound and proper accounting, and that it should not be varied on account of the amount of billing."

REA Acting Administrator Ralph J. Foreman and General Telephone Controller R. E. Dolar made it clear that it is the installation of facilities for the SAGE (semiautomatic ground environment) system of air defense

which has raised their interest in the subject.

Dolar took the position that "the present day termination charge is in effect in the nature of an insurance recovery. It is essentially a recovery made in accordance with a contractual obligation which provides for indemnity from losses of investment costs when and if service is discontinued prior to the end of the contractual period."

He said also that there is no useful purpose in involving the extraordinary retirement account, under the FCC's alternate proposal. To take this approach, he declared, would result in "'bulges' in both revenues and expenses which are not the result of changes in operating revenues or operating expenses but in reality a conversion of plant investment to cash."

Foreman said "termination charges should not be treated as revenues. We believe that the prescribed accounting for any transaction should conform as closely as possible to the basic considerations involved. Termination charges normally are designed to protect the telephone company from loss of its investment through termination of use of plant and not to provide a guaranteed revenue for a stated period. To treat termination payments as revenues, even though provision is made for an offsetting charge to expense, would greatly distort operating statistics for the period of termination."

Hawaiian Telephone, supporting the AT&T proposal, said it has the following advantages: "It prevents mismatching of revenues and expenses; it helps to maintain proper levels of depreciation reserve; it would eliminate fluctuation in the revenue accounts; it would reduce the amount of local taxes applied in jurisdictions which tax gross revenue."

Leslie Duvall Named To Indiana PSC

- **Duvall, an Indianapolis attorney, succeeds Garland E. Skelton who resigned.**

LESLIE DUVALL, 34-year-old Indianapolis attorney, was named to

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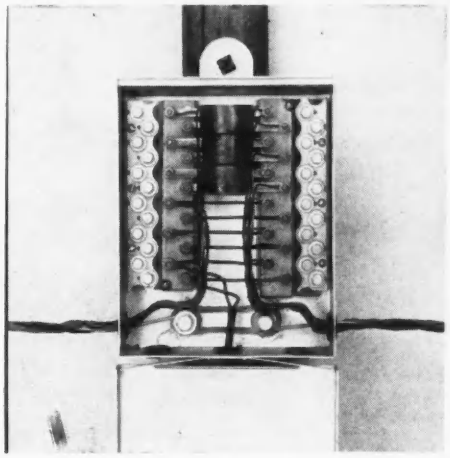

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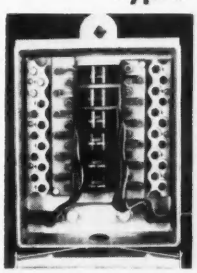
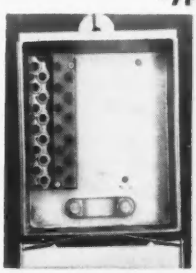


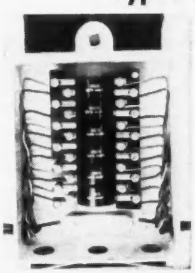
Contains two protected terminal strips complete with type 637A(88MH) or 637 B (44MH) coils.

Type 177F



Contains one protected terminal strip —no coils.

Types 177C-177D



Contains two non protected strips complete with type 637A(88MD) or 637B(44MH) coils.

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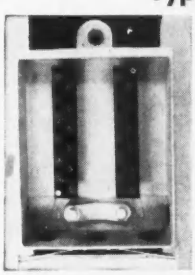
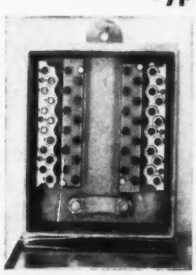


Contains two non protected strips — no coils.

Types 177E



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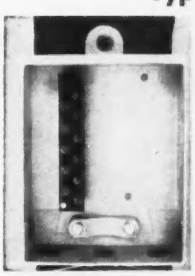

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the Indiana Public Service Commission last month to replace Garland E. Skelton who resigned unexpectedly effective Oct. 1.

Duvall, a PSC hearing examiner the last 18 months, will fill out Skelton's term which expires July 11, 1959, Governor Harold W. Handley announced.

A public accountant, Skelton said he was resigning to return to private practice at his Indianapolis office. He was appointed to the PSC when Handley took office in 1957.

Born in Indianapolis, Duvall obtained his law degree from Indiana University in 1949 and served two years in Marion County Probate Court as a commissioner. He lives at 731 Nottingham Court.

Duvall is Republican State Young GOP chairman and is national president of Sigma Delta Kappa, legal fraternity. He is married and has two sons.

North Carolina Phone Rate Increase Asked

- **General Tel. of Southeast seeks $395,054 rate increase; claims present rates at Durham and Creedmoor are "inadequate" 'to yield reasonable return.**

AN APPLICATION filed with the North Carolina State Utilities Commission (Sept. 16) by General Telephone Co. of the Southeast asked for permission to put into effect increases totaling $395,054 annually in its Durham and Creedmoor exchanges.

The company said expenses have consistently increased because of wage hikes, higher costs of materials and supplies, increased taxes and other factors and net income from present rates are "greatly inadequate" to yield a just and reasonable return.

General of the Southeast also proposed to extend its base rate area boundary for Durham because of expansion of urban development, reducing mileage charges to customers and knocking off $27,996 in annual revenue to the company.

The company, which serves North Carolina, South Carolina, Georgia, Tennessee, West Virginia and Virginia, said the last rate increase in Durham was granted in 1956 to the Durham Telephone Co., which merged with General Tel.

The proposed rate increases would amount to $1.50 per month for a private residence line at Durham, $1.15 monthly for a two-party residence line and 85 cents per month for four-party and multi-party residence lines. Business line rate hikes would amount to $2.50 for all service.

At Creedmoor, the hikes would amount to $1.50 per month for private residential telephones and .85 cents for four-party and multi-party service. Business phone hikes would be $2.25 per month for one-party service and $2 for multi-party lines.

Hearings Held On Bell Of Canada Rate Boost

- **Bell of Canada seeks approval of new rates that would add about 5% to total operating revenues.**

HEARING of the application of Bell Telephone Co. of Canada for increased rates in its territory throughout Ontario and Quebec went before the Board of Transport Commissioners for Canada on Sept. 16.

The company seeks increases for residence service ranging from 10 to 45 cents a month, and for business service from 15 cents to $1.65 a month. Long distance rates, mainly those for person-to-person calls, also would be increased. Overall, the increases would add about 5% to the company's total operating revenues.

Canadian Bell's last general increase in telephone rates took place on March 1, 1952. More than five years later — in August, 1957 — the company applied again for a general increase. However, the new rates authorized after that hearing were disallowed by the Federal Cabinet last April following the hearing of an appeal by the municipalities opposing the application.

In a letter to shareholders at the time of the June 25 filing of the application, President Thomas W. Eadie, said the company has an obligation to serve the public and to do so it must retain the confidence of investors through a sound approach to financial problems and improved earnings.

Part Three—Special Emphasis News

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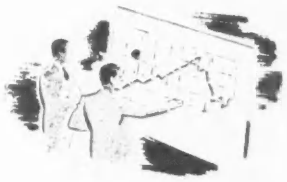


"FINANCIALLY SPEAKING . . ."

Prepared By "TE&M's" Research Dept.

Sharp runup in American Telephone, activity in auto shares, and good market for rails highlighted stock trading last month. . . . Tight money seen as recovery obstacle.

Stock Rise Pace Led By Autos and AT&T

- **Most sensational performer was AT&T. On Sept. 23 AT&T traded 29,600 shares, made a '58 high at 193 3/4 and closed at 192 5/8 for gain of 3 7/8.**

A SHARP runup in American Telephone, activity in auto shares and a good market for rails provided the chief highlights in stock trading last month.

On Sept. 23 the most sensational performer of the day was American Telephone & Telegraph, which traded 29,600 shares, made a 1958 high at 193¾ and closed at 192⅝ for a gain of 3⅞.

Reasons behind the rise, given by some newspapers were:

New York Times — Brokers gave several reasons for this strength. One was a favorable analysis of AT&T earnings prospects now circulating in Wall Street. Another was that the pressure of realizing sales of debentures and stock purchased a little more than six months ago seemed to be dissipating. And there were rumors of a 10% stock dividend and of purchases by Bell System pension funds. The latter rumors were denied by company spokesmen.

Chicago Daily News & *Chicago Sun-Times* — Demand developed for American Telephone amid renewed talk of a plan to split the stock or provide in some other way additional compensation to stockholders.

Wall Street Journal — One explanation for the run-up in AT&T offered by brokers involved technical considerations. The run-up happened during a week when paper profits accruing to those who bought the convertible debentures issue when it was offered last spring could be cashed on a six months tax basis. It had been widely assumed in the Street that

"FINANCIAL NOTES"

CASH DIVIDEND payments by corporations issuing public reports amounted to $302 million in Aug., as compared with $316 million year ago, Commerce Department's Office of Business Economics announced. 4% decrease from Aug., 1957, centered in manufacturing, lower dividends being paid by three-fourths of the industries tabulated. Communications industry paid $1.4 millions compared with $1.3 millions in '57 . . . Unemployment data continues to reflect improved economic conditions. Workers drawing jobless pay decreased 45,700 in week ended Sept. 6. Total dropped to 2,040,000 — lowest level of 1958. In week ended Sept. 13, initial claims for unemployment compensation fell 3,700 to total of 259,000. During like 1957 period, first effects of recession pushed new claims up by 35,000 to 255,000 . . . As days pass Government economists are taking an increasingly cheerful view of business recovery prospects; now they look for straightline upturn with no relapses, conditioned only by how hard tight money bites . . . Department of Commerce looks ahead to 1970 & finds these facts: net gain in number of families of 5,892,000; jump of 415,000 more marriages a year; net gain of 5,637,000 married couples; over 200 million population; 12 million more new homes to be built in next 10 years.

arbitrageurs would absorb such offerings and sell the stock against their purchases of debentures.

However, some of those liquidating long positions in U. S. Government bonds' in past weeks are said to have offset these losses by closing out similar holdings of Telephone debentures. Potential purchasers of the stock, therefore, who had put off commitments until now in the hope of finding stock plentiful, instead discovered a "thin" market on the offering side. Brokers also say the recent Street reports of a possible stock dividend for the issue compounded the situation.

Southern Bell Plans Debentures Issue

- **$70,000,000 in 35-year debentures to be offered for sale at competitive bidding.**

THE BOARD of Directors of Southern Bell Telephone & Telegraph Co., Atlanta, has authorized the issuance of $70,000,000 in 35-year debentures, to be dated Dec. 1, 1958.

The debentures will be offered for sale at competitive bidding, with bids to be opened on or about Dec. 9.

A Registration Statement will be prepared for filing with the Securities and Exchange Commission about the middle of Nov. 1958. The Trust Co. of Atlanta, Georgia, has been desig-

Summary of Telephone Statistics

As of June 30, 1958

Companies, Telephones, and Conversations

	Number of		Average Daily Conversations (3 mos. Ended 6-30-58)	
	Companies	Telephones	Local	Toll
Bell System[1]	21	53,178,000[2]	190,484,000	8,450,000[4]
Bell Service[1]	—	362,000		
Bell Associated[1]	2	1,655,000	5,575,000	307,000[4]
Independent	3,990	9,559,000	46,752,000	1,805,000[4]
TOTAL UNITED STATES	4,013	64,754,000[3]	242,811,000	10,562,000[4]

[1] Bell System is the American Telephone & Telegraph Co. and its principal telephone subsidiaries; Bell Associated is the Southern New England and Cincinnati and Suburban Bell Telephone Companies. Bell service refers principally to telephones on rural or farmer lines and Government telephones connecting directly with the Bell System.
[2] 92.7% served from dial system central offices. Excludes 205,000 private line telephones.
[3] On June 30, 1958, about 78% of the 49.5 million households in the U. S. had telephone service. Of the estimated 120.8 million telephones in the world, about 116.3 million can be connected with the Bell System.
[4] Includes messages originating in Independent areas routed in part over Bell facilities.

Investment and Revenues

	Investment in Plant and Equipment[5]	Revenues (6 Mos. Ended 6-30-58)		
		Local	Toll	Total Operating (Incl. Misc. & Uncollectible)
Bell System[1]	$19,917,550,000	$1,940,678,000	$1,199,070,000	$3,304,901,000
Bell Associated[1]	558,077,000	51,613,000	25,182,000	81,205,000
TOTAL UNITED STATES (Bell and Independent)	23,277,000,000	2,233,000,000	1,340,000,000	3,757,000,000

[5] Before deduction of Depreciation Reserve.

Construction Expenditures, Operating Expenses and Taxes (6 mos. Ended 6-30-58)

	Construction Expenditures	Operating Expenses	Taxes[6]		Total Operating Expenses (Incl. Taxes)
			Federal Income	Other	
Bell System[1]	$1,137,940,00	$2,106,930,000	$418,232,000	$285,820,000	$2,810,982,000

[6] In addition, Federal excise tax, amounting to $133,000,000 for the first 3 months of 1958, was added to Bell System customers' bills.

Employes and Employe Payments

	Number of Employes			Total Payroll (6 Mos. Ended 6-30-58)	Other Payments to and for Employes (6 Mos. Ended 6-30-58)
	Men	Women	Total		
Bell System[1]	251,426	363,832	615,258	$1,465,620,000	$141,625,000
Western Electric (Incl. Principal Subsidiaries)	91,249	33,589	124,838	365,460,000	27,653,000
Bell Telephone Laboratories	8,401	2,324	10,725	39,000,000	3,653,000
TOTAL	351,076	399,745	750,821	1,870,080,000	172,931,000
Bell Associated[1]	6,961	7,795	14,756	35,593,000	3,131,000
TOTAL OPER. TEL. COS.—U. S. (Bell and Independent)	298,000	428,000	726,000		

NOTE: Data for United States are partly estimated.
Source: — American Telephone & Telegraph Company, Chief Statistician's Division.

Summary of Earnings Reports

A summary of telephone corporation earnings reports appears below. To insure prompt listings of your company's report in this department please air mail four copies of report to TELEPHONE ENGINEER & MANAGEMENT, 7720 N. Sheridan Rd., Chicago 26, Illinois.

Company	Period	Net Income 1958	Net Income 1957	Per Co. Share 1958	Per Co. Share 1957
Bell Tel. of Pa.	7 mos. July 31	$25,930,700	$25,245,224		
British Col. Tel.	6 mos. June 30	1,998,855	2,359,865	.79	1.33
Calif. Interstate Tel.	Quar. June 30	115,275	126,383	(1) .20	(1) .33
Calif. Interstate Tel.	12 mos. June 30	446,086	398,610	(1) .87	(1) .99
Central Tel.	6 mos. June 30	913,030	1,002,949	(2) .85	.98
Citizens Util.	Quar. June 30	341,869	305,593	.32	(3) .28
Citizens Util.	6 mos. June 30	633,244	583,454	.59	(3) .54
Citizens Util.	12 mos. June 30	1,326,214	1,195,182	1.23	(3) 1.10
General Tel. Corp.	12 mos. Aug. 31	47,111,000	46,561,000	3.07	3.18
Illinois Bell Tel.	7 mos. July 31	34,840,023	31,383,000	—	—
Int'nat'l T. & T.	Quar. June 30	6,320,635	7,088,806	.88	.99
Int'nat'l T. & T.	6 mos. June 30	12,346,828	12,989,254	1.72	1.81
New Eng. T. & T.	7 mos. July 31	22,186,257	17,058,728		
New York Tel.	8 mos. Aug. 31	70,688,089	55,212,504	—	—
Pacific Telephone & Tel.	Quar. Aug. 31	31,295,337	25,480,642	(1) 2.53	(1) 2.40
Pacific Telephone & Tel.	12 mos. Aug. 31	101,405,515	97,542,883	(1) 8.19	(1) 9.28
Rochester Tel. (N. Y.)	12 mos., June 30	1,720,400	2,125,021	(5) 1.04	(5) 1.40
So. N. E. Tel.	7 mos. July 31	9,927,253	6,650,909		
S. W. Bell Tel	7 mos. July 31	60,798,822	58,461,447		
S. W. States Tel.	6 mos. June 30	706,002	621,227		
United Utilities	6 mos. June 30	3,216,750	2,805,073	(5) .80	(5) .88
West Coast Tel.	6 mos. June 30	727,726	834,851	.48	.69
Western Union Teleg.	8 mos. Aug. 31	5,824,757	7,594,951	.93	1.22

(1) Based on average number of shares outstanding during the period.
(2) On shares outstanding at close of period.
(3) Based on shares now outstanding.
(4) Based on average number of shares during period.
(5) On shares outstanding at close of period.

nated as trustee.

Ben S. Gilmer, Southern Bell president, said the funds will be used in connection with Southern Bell's construction program designed to meet continuing telephone demands in the South. Southern Bell serves Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee.

Experts See "Tight Money" As Recovery Obstacle

- **A recovery without relapse forecast by Government's top economists. Only complication is "too much tight money too fast."**

DESPITE the headlines, the news of the day is not all bad. Last month the Government's top economists cheered up business with forecasts indicating they now expect "a recovery without relapses," and the only complication they really fear "*is too much tight money too fast.*"

In Washington one Government economist stated his belief that the Federal Reserve Board "is off to a flaring start" in pursuit of tight money, and, "they have a much shorter road to go" now to achieve real credit stringency than they did during the 1954-55 recovery period.

Today's interest rate structure — much higher than in early 1955 — is but one element which makes the path to tight money a relatively short one. Two other — less noticed — factors are also involved: These are corpor-

Dividends Reported

To obtain prompt publication of your company's Dividend Announcement, please airmail four copies to TELEPHONE ENGINEER & MANAGEMENT, 7720 N. Sheridan Rd., Chicago 26, Ill.

Company	Period	Amt.	Payable Date	Record Date
Anglo-Canadian Tel.	Ann.	.30	12-1-58	11-10
Calif. Interstate Tel.	Quar.	.26¼	10-1-58	9-12
Calif. Water & Tel.	Quar.	.30	11-1-58	10-10
Citizens Util. (Com. "B")	——	.25	10-2-58	9-26
Central Tel. ($5 pf.)	Quar.	1.25	9-30-58	9-18
Gen. Tel., Wis. (PF)	Quar.	1.12½	10-1-58	9-15
International T.T.	Quar.	.45	10-15-58	9-19
Middle States Tel. (Ill.)	Quar.	.22½	9-30-58	9-18
New Eng. T. & T.	Quar.	2.00	9-30-58	9-10
Pacific T. & T.	——	1.75	9-30-58	9,15
Pacific T. & T. (PF)	Quar.	1.50	10-15-58	9.30
Southeastern Tel.	Quar.	.22½	9-30-58	9-18
S. W. States Tel.	Quar.	.30	12-1-58	11-10
Southern N. E. Tel.	Quar.	.50	10-15-58	9-20
Western Union Tel.	Quar.	.30	10-15-58	9-19
West Coast Tel.	Quar.	.28	12-1-58	11-10
Western Light & Tel.		.50	11-1-58	10-17

ate liquidity and the velocity of money circulation.

The "Fed's" earnest pursuit of credit restraint — from early '55 through late '57 — failed for a long time visibly to dampen business capital investment or the over all boom itself. This has been explained by many experts as a result of the fact that most companies entered that tight money period in a very liquid position and of the fact that U. S.

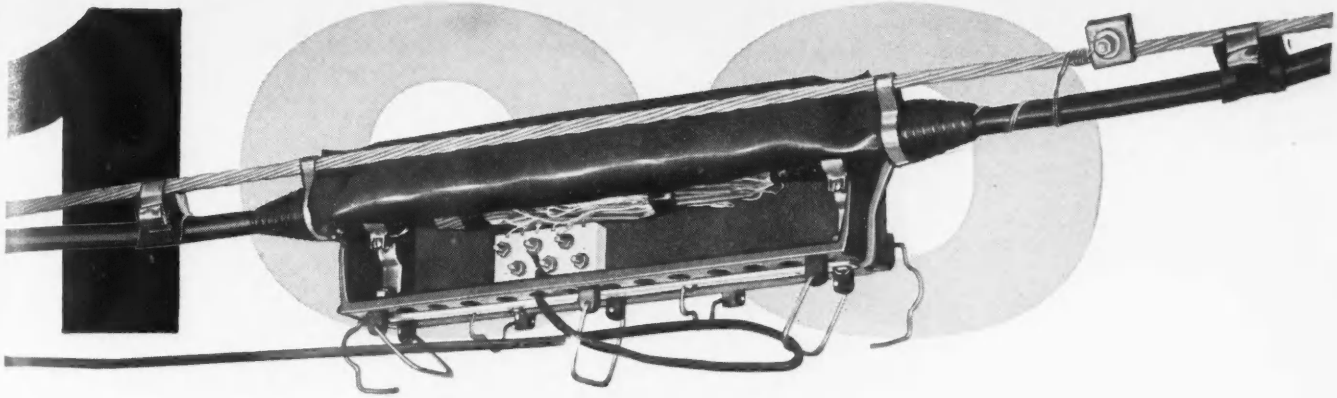
Operating Data of Telephone Carriers Filing Reports With the Federal Communications Commission

For The 12 Months Ended With May 1958

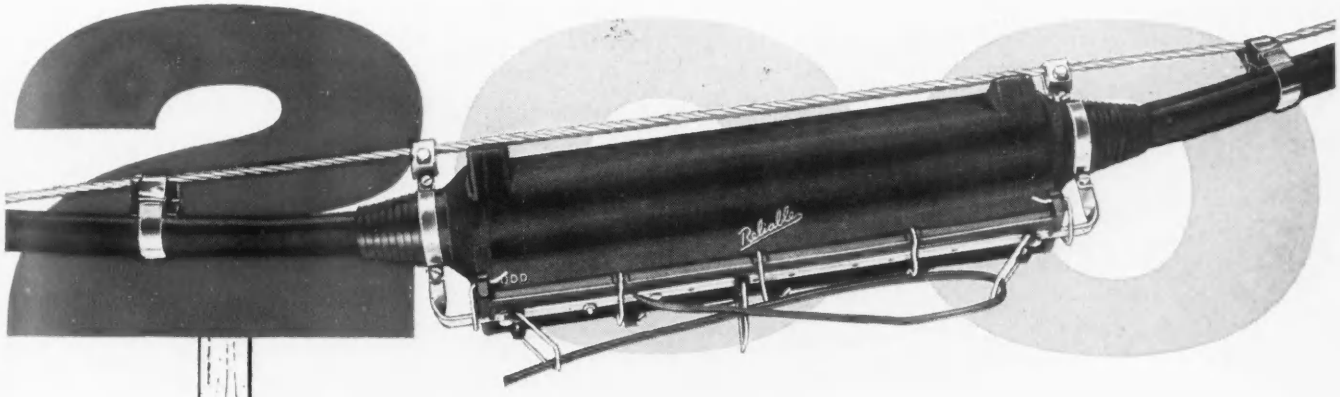
(Figures shown in thousands, except per-company telephone data)

ITEM	TOTAL ALL F.C.C. RESPONDENTS[1]			
	1958	1957	Per company telephone	
			1958	1957
Average number of company telephones	55,556	52,568	—	—
Originating telephone toll messages	2,485,906	2,385,253	—	—
Local calls, completed and uncompleted	89,627,340	84,456,329	—	—
OPERATING REVENUES:				
Subscribers' station revenues	$3,716,982	$3,423,915	$66.91	$65.13
Public telephone revenues	193,580	186,669	3.48	3.55
Local private line and sundry revenues	75,597	67,649	1.36	1.29
Message tolls	2,291,402	2,179,981	41.24	41.47
Toll private line and sundry revenues	208,986	184,206	3.76	3.50
Rent Revenues	23,131	21,390	.42	.41
Revenues from general services and licenses	3,024	2,778	.05	.05
Sundry miscellaneous revenues	333,849	299,175	6.01	5.69
Uncollectible operating revenues - Dr.	26,372	20,159	.47	.38
Total operating revenues	6,820,179	6,345,604	122.76	120.71
OPERATING EXPENSES AND TAXES:				
Maintenance expenses	1,284,529	1,288,902	23.12	24.52
Depreciation	851,880	656,966	15.33	12.50
Amortization of tel. plant acquisition adj.	42	179	—	—
Traffic expenses	976,286	986,565	17.57	18.77
Commercial expenses	608,477	573,945	10.95	10.92
General office salaries and expenses	430,419	404,716	7.75	7.70
Operating rents	65,585	58,915	1.18	1.12
Relief and pensions	213,014	195,148	3.84	3.71
General services and licenses	698	514	.01	.01
All other operating expenses	22,878	24,379	.41	.46
Provisions for Federal taxes on income	823,320	767,128	14.82	14.59
Other operating taxes	560,824	505,959	10.10	9.63
Total operating expenses and taxes	5,837,952	5,463,316	105.08	103.93
Net operating income	982,227	882,288	17.68	16.78
OTHER INCOME ITEMS AND DEDUCTIONS:				
Other income	155,910	149,846	2.81	2.85
Miscellaneous deductions from income	8,571	9,199	.16	.17
Interest deductions	210,705	165,554	3.79	3.15
Miscellaneous fixed charges	(677)	(485)	(.01)	(.01)
Net income	919,538	857,866	16.55	16.32
SELECTED BALANCE-SHEET ITEMS (month-end):				
Telephone plant in service	20,332,497	18,337,359	359.01	338.87
Telephone plant under construction	667,326	737,869	11.78	13.64
Property held for future telephone use	17,751	17,923	.31	.33
Telephone plant acquisition adjustment	3,569	4,065	.06	.08
Depreciation reserve	4,708,906	4,452,283	83.14	82.28
Amortization reserve	1,528	1,674	.03	.03
Capital stock	7,665,043	6,990,513	135.34	129.18
Premium on cap. stock & other cap. surplus	2,057,621	1,803,167	36.33	33.32
Unappropriated earned surplus	1,775,204	1,501,764	31.34	27.75
Earned surplus reserve	14,036	9,517	.25	.18
Funded debt	6,390,713	5,368,113	112.84	99.20
Advances from affiliated companies	2,698	2,499	.05	.05

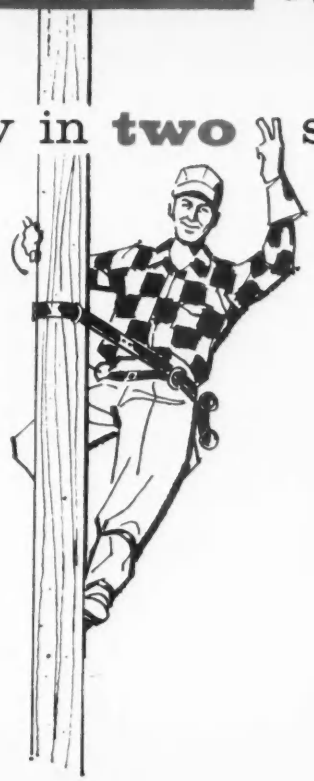
[1]This tabulation based on currently reported data of telephone carriers accounting for over 90% of the gross operating revenues of the telephone industry.
(Source: Federal Communication Commission, Washington 25, D. C.)



Reliable ready-access terminals . . .



now in **two** sizes for cables up to 2.2″ in diameter



Reliable now offers Ready-Access Cable Terminals in two sizes for use with plastic jacketed, plastic insulated cables.

Catalog Series 100 – for cable up to 1.2″ O.D.

Catalog Series 200 – for cable from 1.0″ to 2.2″ O.D.

Catalog Series 100 and 200 units are easily installed and easily maintained terminal and splicing facilities. Up to four 6-pair Reliable Catalog No. 105 Terminal Blocks can be added to both Series Terminals, or the space can be used for loading coils. The flexible neoprene cover is conveniently folded back, as in upper illustration, while internal wiring is altered to meet changing requirements.

You will get interesting details by writing for Product Data Sheet No. 17, featuring Ready-Access Cable Terminals.

Reliable ELECTRIC COMPANY • FRANKLIN PARK, ILLINOIS

A HALF CENTURY OF SERVICE TO THE UTILITIES

business showed tremendous ingenuity in speeding up its use of funds — making the same amount of money work harder.

No such degree of liquidity exists now to help cushion the impact of credit restraint. Nor, the experts believe, is it going to be possible this time to speed up the velocity of money circulation by very much. Money turnover rates are now almost at the high point they reached at the top of the boom in July, 1957.

Liquidity is defined as the ratio of cash and U. S. securities in the hands of corporations to their current liabilities. This ratio stood at 53% at the end of 1954, before the last period of credit restraint got under way. At the end of 1955 — 47%; at the end of 1956 — 42%; end, 1st quarter, 1957 — 40%; end, 2nd quarter, 1957 — 39%; end, 3rd quarter 1957 — 39%; end 4th quarter, 1957 — 41%; end, 1st quarter, 1957 — 41%; end, 2nd quarter, 1958 — 42%.

Thus, U. S. corporations are in a somewhat more liquid position now than they were at the peak of the 1955-57 boom, but nowhere near as liquid as they were at the start of it.

As for the velocity of money turnover a similar picture shows up in the Federal Reserve's figures on the annual rate of turnover of demand deposits (outside of the big financial centers and excluding U. S. Government and interbank deposits.) This is considered the best measure of money velocity that is available.

In 1954, the deposit turnover rate was 19.2. In 1955 — 20.4. In 1956 — 21.8. For 1957 as a whole, the average rate was 23.0, with a peak of 24.0 reached in July. In 1958, the turnover rate hit a low for the year of 22.3 in February, but by June — the latest month for which figures are available — has bounced back to 23.8.

No one knows for sure whether the velocity of money turnover can be lifted beyond its mid-1957 rate. The 1955-57 experience with velocity rates surprised the experts, who had previously considered the speed-of-turnover factor a relative constant in the ancient money equation.

But most experts have felt that U. S. business had just about reached the end of its ingenuity in making its money work harder by the Summer of 1957. Federal Reserve Board Chairman William M. Martin himself expressed that opinion last year to the Senate Finance Committee.

American Bankers To Tighten All Credit

- **Bankers pledge resistance to inflationary pressures. Federal Reserve officials tell bankers "making money hard to come by" and "more costly to borrow" can restore confidence in the value of the dollar . . .**

IN CHICAGO last month the American Bankers Association closed its 48th annual convention with a pledge its membership will go all out to resist inflationary pressures.

In resolutions adopted at the Conrad Hilton Hotel meeting, the nation's bankers were committed to "support

REA Telephone Loan Report

Company name and Location	Amt. of Loan	Planned Use of Funds
Wilton Tel. Co., Wilton Junction, Ia. Hershel Flater, Pres.-Mgr.	$ 47,000	Two REA loans, totaling $301,000 will enable company to provide new or improved service to 887 rural families.
Modern Tel. Co. Springfield, Mo. James C. Joyce, Pres.-Mgr.	389,000	Two REA loans totaling $1,219,000 will enable borrower to furnish new and improved service to 2,415 subscribers.
Nemont Tel. Co-op., Inc. Scobey, Mont. George H. Johnson, Pres. Howard J. Schaefer, Mgr.	386,000	REA loans totaling $2,373,000 will enable borrower to provide new and improved service to 2,318 subscribers over 2,250 miles of line.
Clifton Tel. Co. Clifton, Texas J. W. Blewett, Sr., Pres. J. W. Blewett, Jr. Mgr.	95,000	REA loans totaling $560,000 will enable borrower to provide new and improved service to about 1,208 farm families and rural establishments.
Taylor Tel. Co-op. Merket, Texas C. T. Myatt, Pres. J. P. Hardesty, Mgr.	50,000	REA loans totaling $1,435,000 will enable company to provide service to 1,992 subscribers. System will have 12 exchanges; 1,269 miles of line.
Wayne Tel. Co. Odum, Ga. J. W. Martin, Pres.-Mgr.	41,000	4 REA loans to company total $288,000. Company will serve 540 rural subscribers; operate 2 exchanges and 176 miles of line.
Pine Island Tel. Co. Pine Island, Minn. James Keane, Pres. Dennis J. Keane, Mgr.	61,000	REA loans totaling $289,000 will enable company to serve 1,153 rural subscribers. System will have 2 exchanges, 188 miles of line.
Farmers Tel. Co-op Kingstree, S. C. W. B. Davis, Pres. R. D. Guerry, Mgr.	400,000	REA loans totaling $2,711,000 will enable company to provide new and improved service to 5,168 subscribers. System will have 14 exchanges; 1,617 miles of line.

policies that seek to avoid the unsound use of credit" in both private enterprise and government.

Declaring the spread of inflation in recent months is due in no small degree to the prospect of a heavy government deficit, the resolutions said: "A continuing federal deficit under inflationary conditions is unconscionable."

A government official told the bankers it is clear that further growth of government in business "should be restrained, and reduced if possible," and further inroads of monopolistic practices and prices must be prevented.

J. L. Robertson, a member of the board of governors of the Federal Reserve System, pointed out that government purchases of goods and services now account for 20% of the gross national product.

He expressed surprise that "in spite of this, and the fact that a substantial part of the remaining 80% is controlled or influenced by government policies the system (free enterprise) continues to work efficiently."

And "monopolistic" practices and monopolistic prices, whether in industry or labor, or among financial institutions, can destroy our economy as effectively as an outside enemy, he declared.

Making money "hard to come by" and "more costly to borrow," can restore confidence in the value of the dollar, he said.

The effect, he said, is to "cause people to refrain from buying goods they do not need, from speculating in stocks as a hedge against inflation, and from borrowing more than their present means or prospective income warrant."

Central Electric Plans Stock & Debenture Issues

- **Central Electric & Gas Co., Lincoln, Neb., plans to sell up to 100,000 shares of Common and up to $3,000,000 of convertible debentures.**

THE NEBRASKA Railway Commission has set a Nov. 10 hearing on the application of the Central Electric and Gas Co., Lincoln, Neb., to sell up to 100,000 shares of common stock

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NYLON JACKETED

ABRASION RESISTANT

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FOR EASY HANDLING

TELEFRAME Jumper and Duct Wire has these many added advantages:

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- Cannot fray.

INDEPENDENT

WB

12-8

WHITNEY BLAKE COMPANY

WELL BUILT WIRES SINCE 1899

NEW HAVEN 14, CONNECTICUT

and up to $3 million worth of principal amount of convertible debentures. The commission said the common stock has a par value of $3.50 per share.

Central officials said the money will be used to purchase common stock in the company's subsidiary telephone companies and the "usual yearly construction" work in Nebraska and South Dakota.

Communications Equipment Shipped In Second Quarter

- **Manufacturers shipped 1,500,000 telephones, 857,000 lines of C. O. equipment, & 115,000 lines of dial PBX equipment in 2nd quarter.**

PRODUCTION of communications equipment during the second quarter of 1958 included 1,500,000 telephone sets, 857,000 lines of dial central office equipment, and 115,000 lines of dial PBX equipment, according to a report of the Business & Defense Services Administration issued last month by the Department of Commerce.

The value of shipments of all communications equipment during the second quarter of 1958 totaled $341,000,000. In addition, communications equipment manufacturers shipped, during the same period, some $103,000,000 of supply items purchased for resale.

Western Carolina Tel. Co. Closes Mortgage Loan

- **Proceeds will be used to refund bank loans for improvement and expansion.**

WESTERN Carolina Telephone Co., Weaverville, N. C., has closed a 25-Year First-Mortgage loan with Berkshire Life Insurance Co., Pittsfield, Mass., and Connecticut General Life Insurance Co., Hartford.

Proceeds of the loan will be applied to refunding of bank loans and to extensions and improvements of the properties. This is the fourth piece of financing which the Company has arranged with Berkshire Life and Connecticut General.

REA Names McFarlin Assistant Administrator

APPOINTMENT of Norman H. McFarlin as an assistant administrator of the Rural Electrification Administration was announced last month by the U. S. Department of Agriculture.

Appointed by REA Administrator David A. Hamil, McFarlin will be in immediate charge of the agency's rural telephone program, filling a vacancy that has existed since last March.

McFarlin's experience in the telephone field includes 11 years as secretary, vice president, and general manager of the Montezuma (Ia.) Mutual Telephone Co. He was also a member of the Iowa Independent Telephone Association.

The new assistant administrator formerly practiced law as a member of the firm of McFarlin & McFarlin in Montezuma.

McFarlin was born in Montezuma Jan. 2, 1918. He received a B. A. degree from Grinnell College, Grinnell, Iowa, in 1939 and a law degree from the University of Iowa in 1947. He served with the Air Force in World War II.

Digest of Financial Transactions

To obtain prompt listing of Telephone Financial Transactions please send complete details to TELEPHONE ENGINEER & MANAGEMENT, 7720 N. Sheridan Rd., Chicago 26, Ill.

Company	Amount	Type	Comments
Alma Tel. Co., Inc. Alma, Ga.	$1,115,000	REA Loan.	Georgia PSC OK'd company's plan to borrow $1,115,000 from REA.
Alma Tel. Co., Inc. Alma, Ga.	———	24,000 shares no-par value common.	Company to issue stock for purpose of acquiring Alma Tel. Co., Patterson Tel. Co. & Nicholls Tel. Co.
Fairmount Tel. Co., Inc. Fairmount, Ga.	52,725	10,545 shares $5 common.	Present owner, E. D. Lacey incorporated company; transferred his equity to company in exchange for stock.
Haines, (Ore.) Tel. Co.	$35,000	Prom. Notes	Loan agreement with supplier; interim notes; interest at rate of 6% per annum.
Homerville Tel. Co. Homerville, Ga.	94,000	REA Loan.	Georgia PSC authorized company to secure additional $94,000 loan from REA.
Knappa (Ore.) Tel. Co.	20,000	2nd. Mtg.	Loan agreement with supplier; interest rate 6% per annum.
Middle States Tel. (Ill.)	702,000	Com. Stock	36,000 shares at $19.50 per share.
Northwest Tel. Co. Redmond, Ore.	400,000	Prom. Notes	Term loan agreement with bank; promissory notes; interest rate 5½% per annum.
Southern Bell Tel. & Tel.	70,000,000	35-yr. Deben.	To be dated 12-1-58; offered for sale 12-9-58.
Vienna Tel. Co. Vienna, Ga.	32,500	Bank loan & mfg's. loan.	$27,500 bank loan; $5,000 mfg's loan.
Western Carolina Tel. Co. Weaverville, N. C.	500,000	1st mtg. Bonds, 5% series, due 1983.	Bonds to be secured by trust indenture now in effect between company and Chase Nat'l Bank.
West Coast Tel. Co.	4,000,000	1st. Mtg. Bonds	4⅜% series due 1985 by private sale to insurance companies.

Has your toll timing system kept pace with these CALCULAGRAPH IMPROVEMENTS?

NEW COLOR-CODED HANDLES

This "visual aid" to better accuracy is a big help to busy operators—excellent for trainees, too. These new handles in color—green for start, red for finish, can be installed in minutes.

NEW SETBACK HANDLE

Now you can use ANY SIZE toll ticket—in operated position handle cannot damage toll ticket. This new feature permits Calculagraph to be used with any card system.

NEW 60-MINUTE DIAL

Busy operators can now handle more calls more efficiently because there's no need to depend on memory or manual computations on long conversations. Assures you, too, of all charges due on every call.

Check your own switchboard now. If you don't have all these Calculagraph improvements, it's time to modernize and incorporate these benefits into your toll timing system.

Your busy operators will like these easier-to-use color-coded handles; the 60-minute dial will eliminate possible human errors in recording long conversations, saving you "lost-time" dollars; and, you will like the flexibility in card sizes permitted by the set back handle. They all add up to faster, easier, more accurate toll time recording.

Call your Calculagraph distributor today. He'll be glad to discuss your modernization plans with you.

FOR LONG-TIME CALCULAGRAPH USERS ONLY

If you are now using the old "round-type" Calculagraphs, you can easily convert to the rectangular Model 33 (shown here) with the convenient adapter plate that requires just a few minutes to install.

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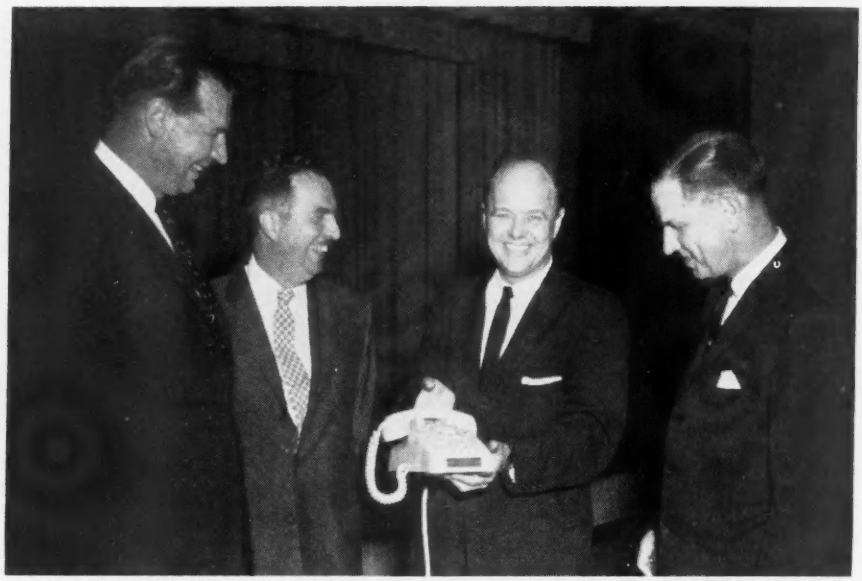
MANUFACTURERS OF ELAPSED TIME RECORDERS FOR OVER 65 YEARS

Georgia's Millionth Phone Installed at Homerville

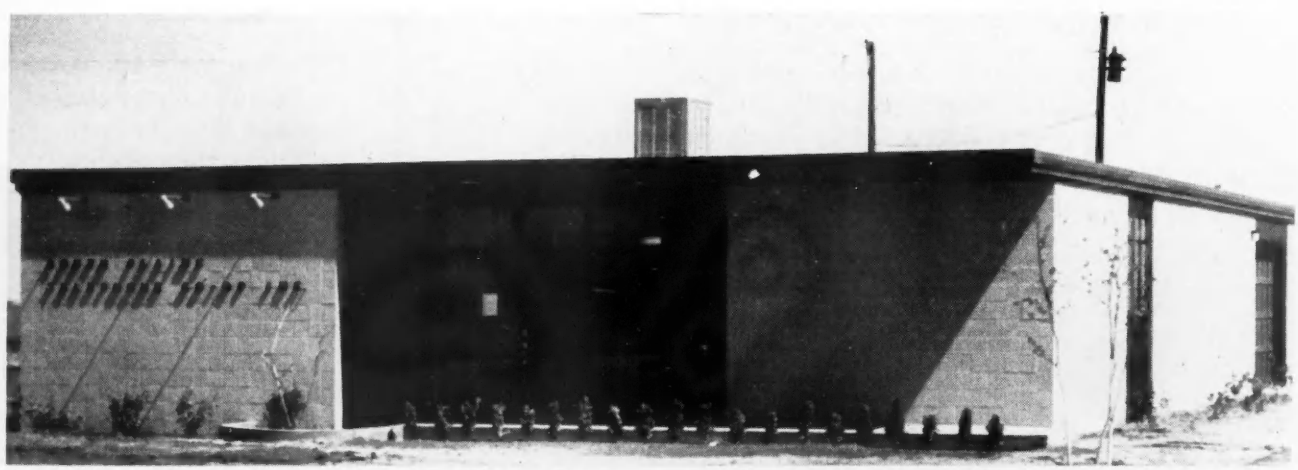
GEORGIA'S one millionth telephone was installed at Homerville, Ga., recently, and at a special banquet celebrating the millionth telephone C. L. Pilcher, member of the Georgia Public Service Commission, dialed the first call to the Georgia Chamber of Commerce President, Edgar J. Forio in Atlanta. Downing Musgrove, president of the Georgia Telephone Association, acted as Master of Ceremonies at the banquet held in the elementary school.

The second call on telephone number one million went to M. A. Perry, with Musgrove placing the call. Perry is president of the Georgia Press Association. As the calls were placed, both ends of the conversation were amplified over a loud speaker which could be heard by everyone in the hall.

W. M. Vogel, Sr., president of the Standard Container Co., was presented the set by Miss Jeanette Ardell, Miss Georgia for 1958. Among the large crowd that witnessed the installation of the millionth telephone were leading figures from the state's



Inspecting the Millionth Telephone are (left to right) J. S. SEIGLE, Southern Bell vice president & general manager for Georgia; E. C. WEITZELL, Rural Electrification Administration; DOWNING MUSGROVE, president of the Georgia Telephone Association; and BEN S. GILMER pres. of Southern Bell.



Open House held at the new commercial office building, of South Plains Telephone Cooperative, Inc., Lubbock, Texas was attended by approximately 100 people. Among those present were: State Senator, Preston Smith; State Representative, Waggoner Carr who is Speaker of The House of Representatives, R. B. Still, past President of Texas Independent Telephone Association; Mills Roberts, division manager; Roy Brewer, division plant superintendent and E. I. Jenkins, district manager, General Telephone Co. of The Southwest. The Cooperative serves nearly 1800 members. Its 12 exchanges serve rural areas in 10 counties in the Plains area of Northwest Texas. Plans have been submitted to REA to extend service to 400 new members.

"MISS GEORGIA" JEANETTE ARDELL presents the Millionth telephone to N. M. VOGEL, SR., president of the Standard Container Co.

telephone industry, members of the Public Service Commission and Clinch County Officials.

Ben Gilmer, president of the Southern Bell Telephone & Telegraph Co., was on hand and cited various phases of progress in the telephone industry in the state.

Ben Wiggins, member of the Public Service Commission, in a short talk, told of the Commission's part and pride in the state's 1,000,000th phone.

J. S. Seigle, vice president and general manager for Southern Bell, told the crowd of about 100 that the telephone industry in the state had played a big part in Georgia's progress.

At the close of the ceremonies, special gifts were given those present. The gifts represented products made in Clinch County or from raw materials produced in Clinch.

According to Downing Musgrove, it took until 1949 for Georgia to gain 500,000 telephones. In 9 years since then, 500,000 more have been added.

Georgia is the second southeastern state to reach the million mark and ranks 20th in the U. S. in total telephones.

The 71 Independent companies in the state now serve about 120,000 telephones.

Donaldson Joins General Labs; Succeeded By Stoner in Fla.

MARCUS L. DONALDSON, chief engineer of the General Telephone

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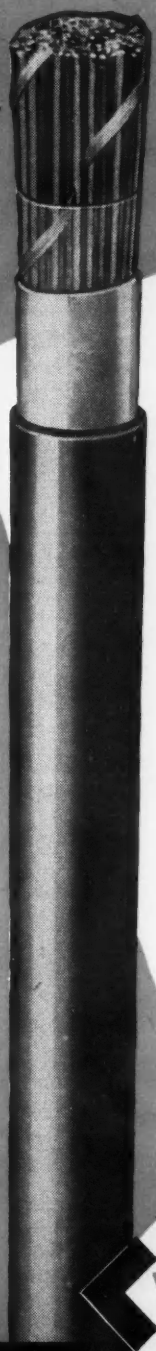
EXCHANGE AREA CABLE



Simplify your cable splicing and terminal installation by asking for the new fully color-coded Whitney Blake TELECABLE . . . it offers the same high quality that has made TELECABLE a recognized leader in the independent telephone industry. An 8 mil aluminum shield applied longitudinally replaces the 4 mil spiralled shield formerly used on all popular sizes. Manufactured in accordance with REA specification PE-22.

Quality is remembered long after price is forgotten.

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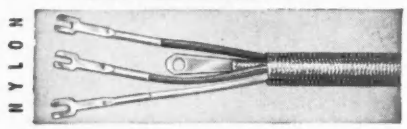

BUY!

Are you familiar with the features of these fine cords?

NEOPRENE covered cords are a highly serviceable cord, extensively used in a wide variety of services. They are moisture and grease proof . . . easy to keep clean.

NYLON covered cords are a relatively new development in telephone cords. Their fine smooth texture makes them the preferred cords for switchboard use. They give long service. Preferred by operators because of their fast, easy handling.

COTTON cords are in standard use everywhere. Their fine woven wrap makes them very serviceable for all around purposes.

Take your choice—Neoprene, Nylon or Cotton. They're all high quality cords made in accordance with Runzel high standard of quality. We carry a large stock of cords for every purpose.

Our geographical location means QUICK SERVICE.

RUNZEL
Cord and Wire Co.
4723 W. MONTROSE AVE.
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When telephones at the Rantoul exchange of the Eastern Illinois Telephone Co. were cutover to dial, Mrs. DORIS QUINLAN found a highly interested group watching her operate the new toll switchboard. Left to right, are: R. R. OMAN of Kellogg Switchboard & Supply Co., which installed the new Federal step-by-step equipment; W. CARL ALLEN, attorney for EIT; MARVIN JOHNSTON, general manager; and W. C. DRYSDALE, EIT president.

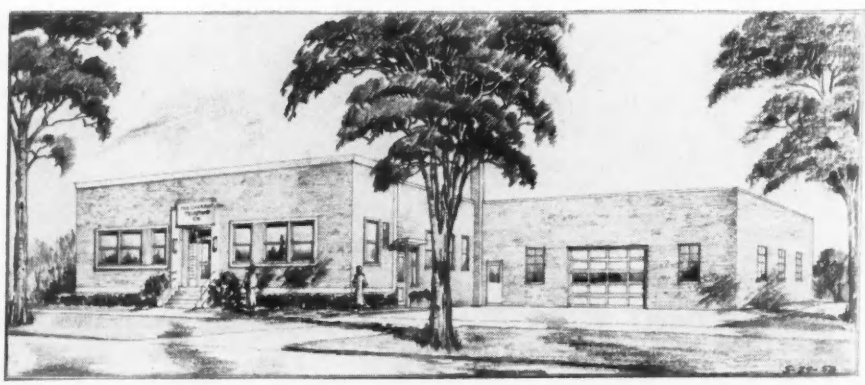
Co. of Florida, Tampa, has been named senior project engineer at General Telephone Laboratories, Northlake, Ill., and has been succeeded in the Florida company by E. C. Stoner, former chief engineer of the General Telephone Co. of Michigan.

Rochester Tel. Promotes Garland and Siebert

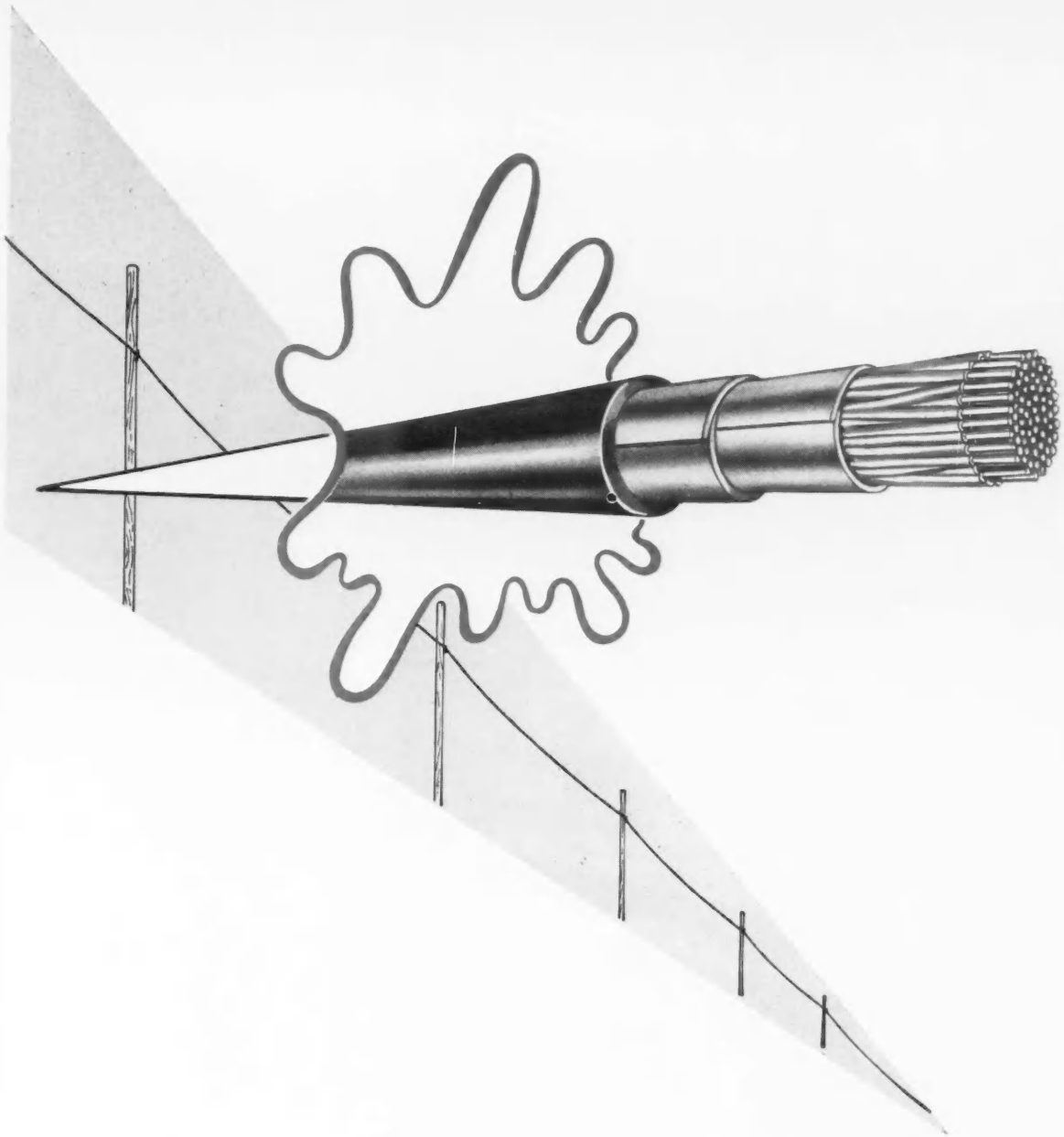
LAST MONTH, C. E. Howden, vice president-plant, Rochester (N. Y.) Telephone Corp., reported that John P. Garland has been named superintendent of purchasing and transportation, and Edward W. Siebert has been advanced to superintendent of purchasing.

Garland has been with Rochester Telephone Corp. since 1925. He started as a central office craftsman. After a series of promotions he became a buyer, which position he held prior to his present promotion. In his new position he is responsible for purchasing of equipment and supplies for the entire corporation. He is also responsible for the maintenance of the motor vehicle fleet.

Siebert has been with the Rochester Telephone Corp. since 1929. He also started as a central office craftsman. After a series of promotions he be-



Architect's drawing of Chardon (Ohio) Telephone Co. building shows how it will appear after present building is enlarged to twice its size. The plans call for a one story and basement addition 40 x 105 feet to the rear and to the east of the building. Two hundred lines will be added and automatic toll ticketing equipment installed. More than 16,000,000 conductor feet of cable is being placed. Direct Distance Dialing was started in June.



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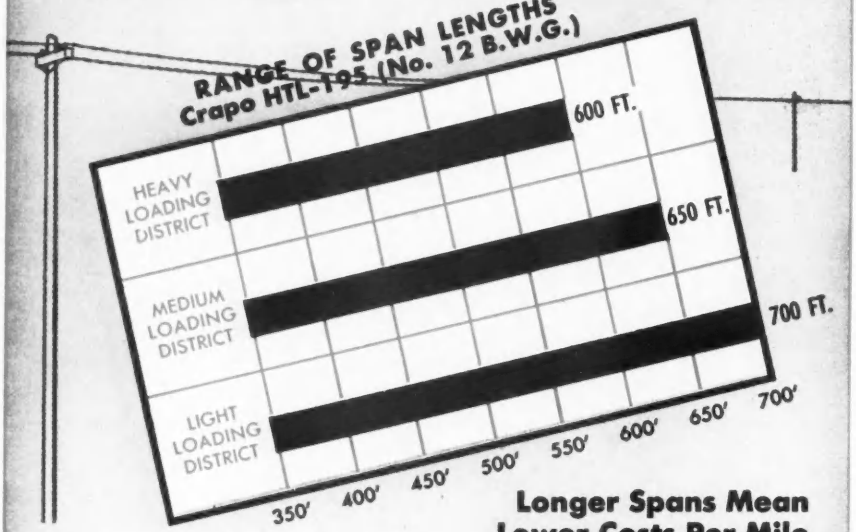
FOR EXTRA LONG SPAN RURAL LINES

The NEW LOWER Resistance Extra-High Tensile Line Wire

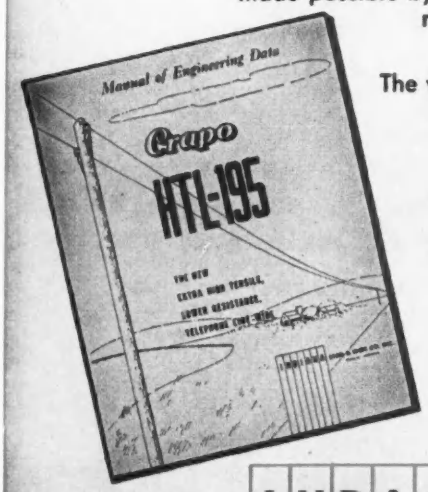


Longer Spans Mean Lower Costs Per Mile

You can cut the number of pole structures to a minimum when you use Crapo HTL-195 in building rural telephone lines. Extra long span construction, made possible by the high physical strength of this new wire, means marked savings in material and installation costs.

The voice transmission quality of Crapo HTL-195 is equal to that of Crapo HTL-135 and superior to older grades of ferrous wire.

Pertinent technical data have been prepared to assist engineers in designing and building extra long span lines with Crapo HTL-195.



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INDIANA STEEL & WIRE COMPANY, INC.
MUNCIE, INDIANA

came an engineer in the plant methods unit, which position he held prior to his present promotion. In his new position he is responsible for maintaining the corporation's stock of equipment, materials, and supplies, including the determination of inventory levels.

General of Fla. Promotes Kafka and Macfarlane

ELECTION of two new officers of General Telephone Company of Florida, Tampa, was announced last month by Carl D. Brorein, president. They are David A. Kafka, vice president of renvenue requirements and treasurer; and Hugh C. Macfarlane, acting secretary and assistant general counsel.

Prior to his recent election, Kafka was general commercial manager for the Florida company.

Macfarlane, member of the Tampa law firm of Macfarlane-Ferguson-Allison & Kelly, has represented Florida General in legal matters for the last eight years.

Norman M. Shenk, former Tampa commercial manager, will fill the post of general commercial manager vacated by Kafka, and Philip G. Scudder, former general commercial supervisor, has become Tampa commercial manager.

Another change, effective Aug. 1, was the promotion of Joseph D. O'Donnell from plant accountant, senior, to assistant controller.

Rex Corp. Offers To Acquire Assets of Ansonia

A CONDITIONAL proposal for purchase of operating assets of The Ansonia Wire & Cable Co., Ashton, R. I., by The Rex Corp., West Acton, Mass., was announced jointly Sept. 22 by Emmett G. Gardner, chairman of Ansonia's board, and Gilbert E. Bell, president of Rex.

If proposed transfer is approved by Ansonia's stockholers and carried through to completion, The Rex Corp. plans to continue the manufacture of Ansonia's "Ankoseal" wire and cable at the Ansonia plant in Ashton, R. I.

Assets to be acquired from Ansonia include the lease of the recently constructed Ashton plant, and ei

Say mister, is this pole gonna be here from now on?

Maybe not from now on, but it will last for years and years. That is unless it's struck by lightning or something. This is a T-C pressure treated pole. T-C's pressure teatment makes 'em last. Our company uses T-C poles all the time. We found they last . . . almost from now on.

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TAYLOR-COLQUITT TIMBER CONSERVATION CO. T-C

TAYLOR - COLQUITT CO.
SPARTANBURG, SOUTH CAROLINA

PLANTS AT SPARTANBURG, SOUTH CAROLINA AND WILMINGTON, NORTH CAROLINA

NEW WRIGHT Type "C" Pull-A-Ways

THREE SIZES—1½, 3 and 6-Tons

FEATURES

- Lubricated for life
- Hooks are drop-forged
- Special alloy-steel chains
- Chain sheaves of drop-forged alloy steel
- Gear teeth cut to precision limits
- Load brake is dependable and safe
- Weights: 1½-TON, 23½ lbs. 3-TON, 36½ lbs. 6-TON, 63 lbs.

Write to York, Pa., office for complete information

Wright Hoist Division
AMERICAN CHAIN & CABLE

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when it comes to QUALITY in Telephone Wires . . . . . .

TIGER BRAND AMERTEL

Galvanized Steel Telephone Wires

USS Amertel represents the finest quality in Galvanized Steel Telephone Line Wire. Through constant research and production quality control you are assured of getting longer wear, better transmission and lower life-cost when you specify Tiger Brand Amertel. Buckeye carries quantity stocks of BB, EBB, Amertel 85 and Amertel 135 grades for immediate shipments. Let us quote on your next order.

When It Comes to Wire . . . Come to BUTELCO!

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LONG SERVICE LIFE

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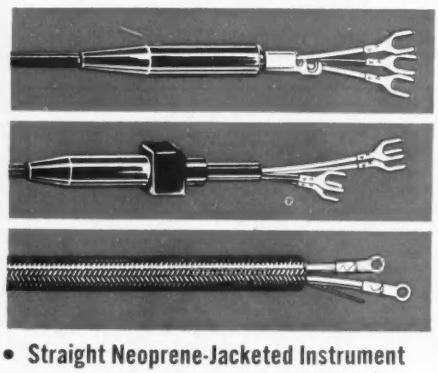
It's as simple as that! . . . and Commercial installations are proving this point to hundreds of users year after year. So whenever you order cords—remember, A-B-C and be satisfied!

You name 'em...we make 'em!



- Straight Neoprene-Jacketed Instrument Cords with twisted or parallel inners.
- Neoprene-Jacketed Retractable Cords.
- Nylon Operators' Cords and Switchboard Cords, with or without plugs.
- Neoprene Handset Cords with moulded strain reliefs.

All Commercial Instrument Cords Now Available in Color

Write for Catalog, Samples and Prices.

COMMERCIAL CORD COMPANY, INC.
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QUALITY CORDS FOR ALL MAKES AND TYPES OF TELEPHONE INSTRUMENTS

LAWRENCE R. KESSELRING, 12, Lombard, Ill., a First Class Scout of Boy Scout Troop 54 in Lombard, was the recent guest of Automatic Electric Co., Northlake, Ill. The young scout was toured through the company's facilities, with emphasis on plant safety equipment and policies, by EUGENE J. DYMEK (left) fire protection and safety engineer, and AE Co's. Fire Marshall EDWARD ZALENDA. The tour is part of the necessary requirement for a merit badge in industrial plant safety. Lawrence, the holder of one merit badge is in need of four more so that he can become a Star Scout, the next step upward.

gineering and production facilities for the manufacture of plastic-covered wire and cable.

AIEE Panel To Discuss Outer Space Problem

IF AND WHEN man travels into outer space, how will he communicate with the earth and his fellow space travellers? This, termed "The $64 billion question" by Dr. John R. Pierce of the Bell Telephone Laboratories, will be the topic of discussion at Pittsburgh, Pa., by a special six-member panel on Oct. 29. The panel discussion will be a highlight of the Fall General Meeting of the American Institute of Electrical Engineers to be held October 26-31 at the Penn-Sheraton Hotel, Pittsburgh.

Participating will be Dr. Robert M. Fano of the Massachusetts Institute of Technology; Col. James H. Ritter of the Air Research and Development Command; Dr. R. L. Shuey of the General Electric Co.; Dr. Joseph H. Vogelman of the Rome (N. Y.) Air Development Center, and Dr. Pierce. Dr. George C. Sziklai of the Westinghouse Electric Corp. will be chairman.

According to Dr. Sziklai the panel will cover "the human aspects of communication as well as telemetry, the problems of power requirements and the basic reasons for work carried on currently." Dr. Vogelman will do some "crystal gazing" about when manned space flight will be possible.

Charles Lillig Named Controller, Leich Sales

C. CHARLES LILLIG, staff accountant at Automatic Electric Co., Northlake, Ill., has been appointed controller of Leich Sales Corp., Chicago. Lillig will also serve as assistant secretary and assistant treasurer at

C. CHARLES LILLIG

MIF UNIVERSAL GUY CLAMPS

give you *more holding power per dollar*

The tilting action of the "U" bolt in this clamp is such that a continually increasing clamping force is exerted on the strand as the guy load increases—the greater the guy tension, the greater the clamping force. A special advantage of the MIF Universal Clamp is in system standardization—it can be used on regular guy strand as well as the relatively soft types, for guying and messenger dead ending applications. Wide range of strand diameters for each size provides greater flexibility in stocking and handling. Specifications and price data in our new telephone industry catalog. *Send for your copy today.*

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RESEARCH • ENGINEERING • MANUFACTURING
FOR OVER 100 YEARS

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Leich Sales Corp.

A graduate of Loyola University, Lillig is a member of the Illinois Society of Certified Public Accountants and the American Institute of Certified Public Accountants.

Kellog Names Rundle Sales Promotion Mgr.

FRED A. RUNDLE has been appointed sales promotion manager of Kellogg Switchboard & Supply Co., Chicago, Ill., communications division of International Telephone & Telegraph Corp. He will continue as sales manager for supplies and cable, George T. Scharffenberger, Kellogg president, announced.

FRED A. RUNDLE

In his new assignment, Rundle will coordinate all promotional and sales activities concerned with Kellogg's wide product line, which includes telephones, relays, switchboards, intercommunication systems, microwave and carriers, industrial components and systems.

Rundle has been with Kellogg since July, 1954.

Kellogg Names Smith Western Regional Mgr.

THOMAS R. Smith has been appointed as western regional manager of Kellogg Switchboard and Supply Co. George T. Scharffenberger, president of the International Telephone & Telegraph Corp. division, named Smith to succeed Kay C. Tompers, who has been promoted to field sales manager.

From headquarters in Burlingame, Calif., Smith will direct Kellogg sales activities in seven western states, Alaska and Hawaii. Smith began his career in telephony as a cable splicer's helper with Wisconsin Bell Telephone Co. in 1940. He was a top lineman when he entered the Army Signal Corps in 1942. After four years of military service, he attended the University of Iowa and later was graduated from the University of Wiscon-

THOMAS R. SMITH

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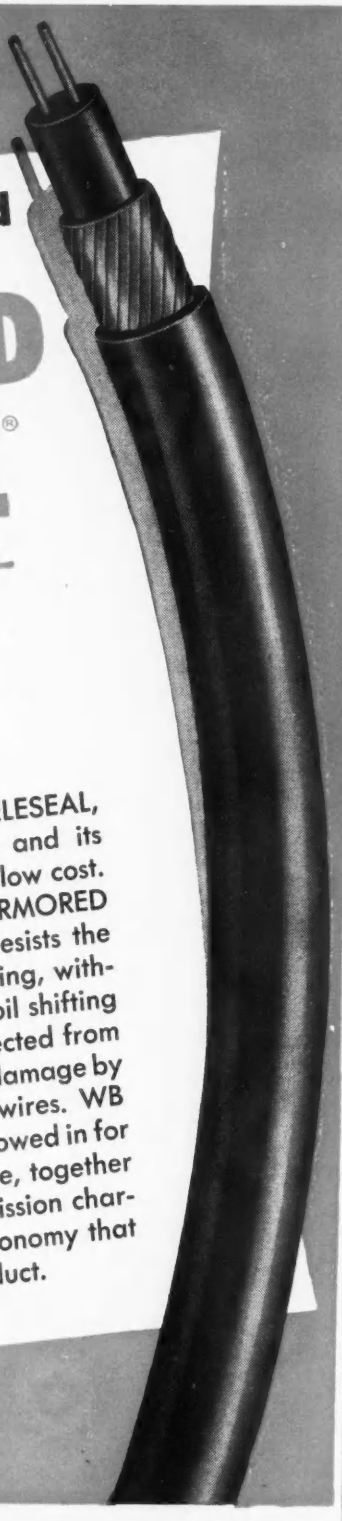
WB plastic jacketed ARMORED TELESEAL, because of its smaller diameter and its lightness, is handled at unusually low cost. Designed for direct burial, WB ARMORED TELESEAL is impervious to rot, resists the stresses resulting from frost heaving, withstands the abrasion caused by soil shifting and rock movement and is protected from rodent, termite and mechanical damage by the served armor of flat steel wires. WB ARMORED TELESEAL may be plowed in for additional economy. Its long life, together with its stable electrical transmission characteristics give you the true economy that comes only with a quality product.



WB

3-8

WHITNEY BLAKE COMPANY

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INDEPENDENT

sin with a bachelor of science degree in electrical engineering.

He was employed by Kellogg as a field representative from 1950-52, then became commercial manager for the Mansfield (Ohio) Telephone Co. He was chief engineer when he resigned to rejoin Kellogg last May.

Muth Named Field Sales Mgr., Headquarters Post at Exide

ROBERT J. Muth, former Los Angeles branch sales manager for Exide Industrial Division of The Electric Storage Battery Company, has been

ROBERT J. MUTH

transferred to the Philadelphia headquarters of the firm, as field sales manager.

In the newly created position Muth will be responsible for all branch operations in the United States. This encompasses 16 regions with industrial battery sales and service facilities in 41 principal cities.

Copperweld To Expand "Alumoweld" Facilities

COPPERWELD STEEL CO., has approved an appropriation of $1,325,000 for installation of new plant facilities at Glassport, Pa., to meet a rising demand for its new Alumoweld wire and strand. "The favorable acceptance of Alumoweld has made this decision necessary," stated William W. Ege, vice president in charge of the Wire & Cable Division.

A limited production of Alumoweld commenced a few months ago following several years of extensive research

and development. Alumoweld is unique because it represents the only successful application of a thick cladding of aluminum to steel by an "atomic" weld. The process utilizes heat and pressure to weld the aluminum to the steel, and subsequently the bimetallic rod is drawn into wire. The new product is composed of 25% aluminum by area as compared to much smaller percentages for aluminum covered steel wire made by other methods. Alumoweld retains its firm weld and one-metal quality when drawn into wire.

Better corrosion resistance, better conductivity, lighter weight and permanent high strength are Alumoweld's advantages. Because of these qualities it is ideal for power conductors, overhead ground wires, core wires in ACSR (aluminum conductors, steel-reinforced), and for guy and messenger strand.

Chester Cable Corp. Names Morrisey to New Position

CHESTER Cable Corp. has announced the appointment of Patrick J. Morrisey to sales manager of its electronic wire and cable division.

After serving with the U. S. Navy, Morrisey was field sales manager for Sola Electric Co. and later national sales manager with Gramer-Halldorson of Chicago, Ill. and held the same position with various divisions of Federal Telephone & Radio Co. Prior to joining Chester Cable Corp., Morrisey was general sales manager of Federal Cable Division of the Royal Electric Corp., subsidiary of I.T.T. Morrisey will make his headquarters at the company's general offices in Chester, New York.

E. E. Fennema Promoted At Automatic Electric

EDWARD E. FENNEMA, formerly warehouse supervisor of the supply sales department of Automatic Electric Sales Corp., Northlake, Ill., has been named manager of supply sales operations. His appointment fills the vacancy left by the recent retirement of George L. Ferguson.

A native of Vesper, Wis., Fennema joined Automatic Electric in 1920, as a stock records clerk. From 1928 to

EDWARD E. FENNEMA

1932, he served as assistant to the production manager of American Automatic Electric Co., the former American Electric Co. just then acquired by AE.

Transferred to Automatic Electric in 1932, he was placed in charge of the supply stock room where he remained until 1939 when he returned to the production department as stock record and order analyst.

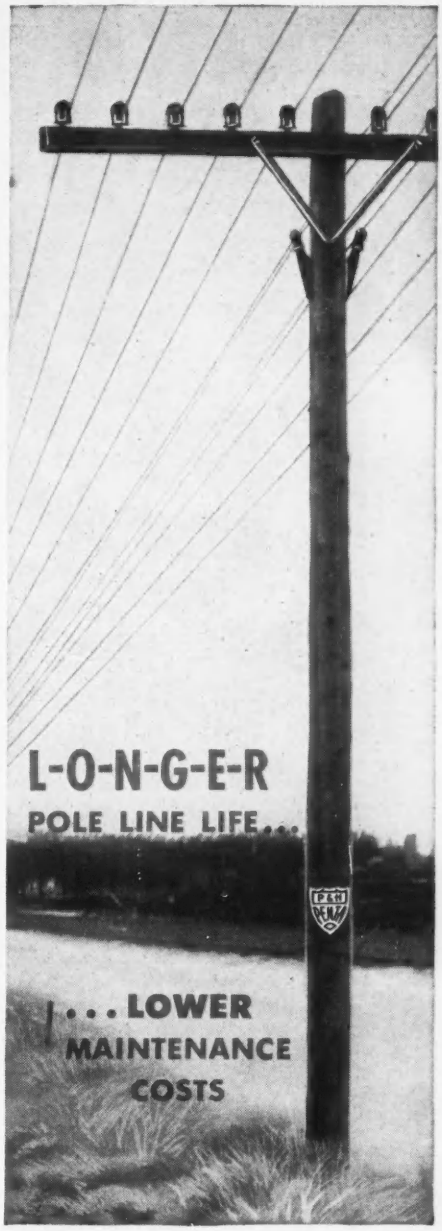
In 1947, he was named buyer in the supply department, and the following year became supervisor, in which capacity he was responsible for the department's Chicago warehouse and inventory control of the branch warehouses. Fennema retained this post until his current appointment.

New Sales Representatives Appointed at Chester Cable

THE CHESTER Cable Corp. has announced the appointment of new representatives to handle products of its Electronic Division in two territories.

Newly expanded research and production facilities combined with this increased sales engineering staff will make it possible to offer customers improved service on all types of electronic wires and cables.

The new sales representatives appointed are as follows: The Branum Co. of Dallas, Texas to handle sales in Oklahoma, Texas, Arkansas and Louisiana. R. W. Farris Co., Inc. of Kansas City, Missouri to cover Iowa, Kansas, Missouri, Nebraska and a portion of Illinois.



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The proved and standard protection for Underground Telephone Cables. Highest quality and full line of shapes.

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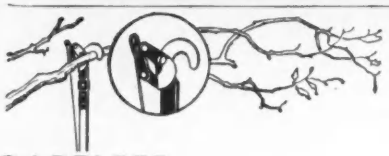

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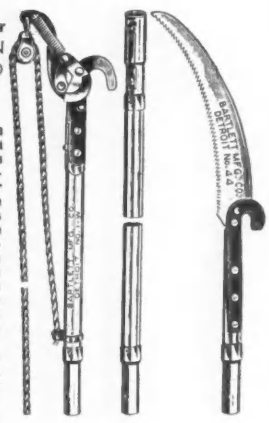
Compound Lever WE COMBINATION TREE TRIMMER AND SAW OCTAGON POLE

Double leverage action of pulley gives extra power. Head sections 30" overall. Easily converted from pole pruner to pole saw for large limbs, and extra lengths can be added to make desired length—Capacity of pruner 1¼" with dropforged, sidecutting blade. Saw will handle larger branches. Has 16" curved blade with peg teeth. Other styles available.
The W E Combination with 2-6 ft. sections is recommended, since it can be used as an 8½ ft. pole, using one section or a 14½ ft. pole by using 2 sections.



Price Complete $33.75 Delivered in U.S.A.

As an added feature we offer our wire raising tool which fits the extra sections of the WE combination.

Specify L-65 wire raising tool.

Price $5.80 delivered.

BARTLETT MFG. COMPANY

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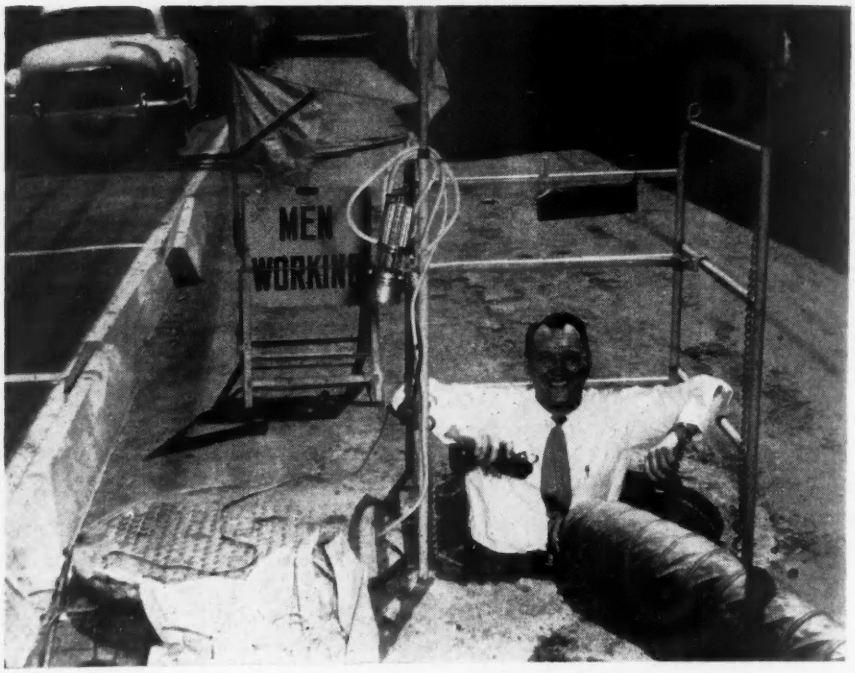


NOBLE de ROIN, president of International Advertising Co., Denver, Colo., advertising agency for Morrison-Pelsue Co., is known in Denver as the "man in the grey, flannel safety belt." For past two years de Roin has been climbing poles, exploring manholes, dodging booms as he went direct to the jobs in his search for telephone industry copy appeals.

Ericsson Group Gets $2,000,000 Contract

THE ERICSSON Group, worldwide telecommunications organization has announced the receipt of a contract totalling more than $2,000,000 for telephone equipment involving several automatic exchanges in Bogota, Colombia. The equipment will provide service for 14,000 additional subscribers in that city, bringing the total number of lines served by Ericsson equipment there to approximately 100,000.

The Ericsson Group is composed of the parent company, L. M. Ericsson Telephone Company, and subsidiary and associated companies in 26 different countries. One of these subsidiaries, Cia Ericsson Ltda., is located in Bogota.

The first Ericsson telephone exchange installed in Colombia was in Ibague in 1932, and serviced 1,500 lines. Today 26 Colombian exchanges utilize more than 165,000 lines of Ericsson equipment. In 1957 alone, the Group installed equipment for 21,000 lines throughout the country.

U. S. Industrial Chemicals Names Rader to New Post

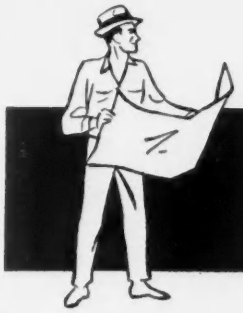
WILLIAM H. RADER has been made U. S. Industrial Chemical Company's assistant production manager for "Petrothene" Polyethylene resins. U.S.I. is a division of National Distillers & Chemical Corp.

Rader was employed by a consulting firm from 1941 to 1943 as a naval architect. In 1943 he enlisted in the U. S. Navy and was assigned to ship repair, salvage and underwater work. Upon completing his military service in 1946, Rader resumed studies at the Illinois Institute of Technology and received a B. S. in Chemical Engineering in 1948.

He was employed in 1948 by the Chemical Products Division of Esso Standard Oil Co. until 1953, when he joined National Distillers' subsidiary, National Petro-Chemicals Corp., as senior technologist.

Regulator Repair Bulletin

THIS illustrated bulletin gives step-by-step instructions for installation of new seats in welding and industrial regulators in order to reduce repair charges and down-time. Prepared especially for welding foreman and plant maintenance foreman. Write *Modern Engineering Co., Dept. TE&M, 3411 Pine Blvd., St. Louis 3, Mo.*



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HELP WANTED

CABLE SPLICERS. Station Installers, equipment Installers. Linemen, Experienced men needed. Steady work, good pay. Henkels & McCoy, 1211 Kenmore Avenue, Elkhart, Indiana, or 6100 N. 20th St., Philadelphia, Pa.

CHIEF ACCOUNTANT: Wanted for Class A telephone company, 24 exchanges, dial conversions nearly completed. Write giving full details of education, experience and salary expected. Allied Telephone Co., P. O. Box 2177, Little Rock, Ark.

MAN WANTED: Capable of assuming duties of plant engineer and superintendent of telephone company consisting of nine exchanges with forty-five hundred stations. Must have extensive experience in all plant operations inside and outside. Reply Box 30, c/o Telephone Engineer & Mgmt.

HELP WANTED

Journeyman station-installer repairmen and equipment installer-repairmen with at least 2nd class radio license. Call or write W. B. Crays, General Plant Mgr., Inter-County Tel. & Tel. Co., Fort Meyers, Florida.

WANTED: Well qualified cable splicers and helpers. Write: Neale Construction Company, 3100 Topeka Ave., Topeka, Kan.

WANTED IMMEDIATELY

AE step-by-step office equipment engineer with at least 2 years' engineering experience to supervise inventory and evaluation project in Hawaii. Radio and carrier experience also desirable. Write giving background resume, salary, earliest availability and other pertinent information. Box 31, c/o Telephone Engineer & Management.

SITUATION WANTED

EX-CONTRACTOR — 39 years of age with 10 years underground telephone, electric and gas experience, desires position with a good reliable construction engineering or sales organization. Write Box 32, c/o Telephone Engineer & Mgmt.

COLLEGE GRADUATE, fifteen years experience in plant, C.O. dial installation and management, desires to relocate. Prefer position as plant superintendent or manager. Write Box 28, c/o Telephone Engineer & Management.

CLASSIFIED ADS

Published in each issue of Telephone Engineer & Management. Forms close on 10th of month for issue dated the 1st, and 25th of month for issued dated 15th. Rates are 15¢ per word except for Situation Wanted ads, which are 10¢ per word.

POSITION WANTED — As manager to maintain and operate an independent telephone exchange. Have had 25 years experience in all phases of telephone work. Can furnish references. Write Box 33, c/o Telephone Engr. & Mgmt.

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TELEPHONE ENGINEER — College graduate, 9 years experience Western Electric 1½ years experience project engineer, missile test range. Desire southeast location. Will furnish resume on request. Write Box 34, c/o Tel. Engr. & Mgmt.

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Will catch and hold workman if he starts to fall, even if unconscious. Cannot slip on down ladder. Requires no attention from climber; he climbs in normal manner. Inexpensive. Easy to install; 3 men can clamp it to ordinary ladder in few hours. Clamps to any rung ladder, peg ladder, pole or framework. No welding or cutting. Notched rail hot-dipped galvanized. Entire equipment rust and corrosion proof. Can be kept free of ice by applying heat inside the carrier rail. In use approx. 10 years. Approved by Safety Engineers. and Govt. Agencies throughout country. Patented. Manufactured only by

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1. The name and addresses of the publisher, editor, managing editor and business managers are:

Publisher—Telephone Engineer Publishing Corp., 7720 Sheridan Road, Chicago, Ill.

Editor—Ray W. Smith, 7720 Sheridan Road, Chicago, Ill.

Managing Editor—John G. Reynolds, 7720 Sheridan Road, Chicago, Ill.

Business Managers, Ray W. & Roy F. Smith, 7720 Sheridan Road, Chicago, Ill.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

Telephone Engineer Publishing Corporation, 7720 Sheridan Road, Chicago 26, Ill.

Ray W. Smith, 7720 Sheridan Road, Chicago 26, Ill.

Roy F. Smith, 7720 Sheridan Road, Chicago 26, Ill.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities: **(If there are none, so state.)**

Ray W. Smith, 7720 Sheridan Road, Chicago 26, Ill.

Roy F. Smith, 7720 Sheridan Road, Chicago 26, Ill.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

Ray W. Smith, Editor

Sworn to and subscribed before me this 10th day of September, 1958.

Richard A. Reynolds, Notary Public
(My commission expires Feb. 13, 1962)

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MAGNETO TELEPHONES — Leich 901 wall or desk magneto telephones. Cleaned, tested and guaranteed, $16.50 each. As removed from service, $15.00 each. Turtle Lake Tel. Co., Turtle Lake, Wisc.

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BOOTHS — Acoustic Telephones — *Sherron Metallic Corp., 1202 Flushing Ave., Brooklyn 6, N. Y.*

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CORDS, Switchboard (with or without plugs), Instrument (straight and retractable in eleven colors. — *Commercial Cord Co., Inc., 26 Main St., Clifton Springs, N. Y.*

CORDS, Switchboard & Telephone — *Runzel Cord & Wire Co., 4727-31 Montrose Ave., Chicago 41, Ill.*

POLES, Creosote & Creosote Penta-Treated, Southern Yellow Pine — *Piedmont Wood Preserving Co., P.O. Box 700, Augusta, Georgia.*

POLES, Southern Yellow Pine — *Taylor Colquitt Company, 217 E. Main St., Spartanburgh, S. C.*

POLES, Southern Yellow Pine — *Texas Creosoting Co., Orange, Texas.*

PROTECTIVE EQUIPMENT — *Reliable Electric Company, 11333 Addison St., Franklin Park, Ill.*

TELEPHONE EQUIPMENT AND SUPPLIES — *Telephone Repair & Supply Company, 1760 Lunt Avenue, Chicago 26, Ill.*

WIRE, Insulated — DATED DROP WIRE — Neoprene or Weatherproof — *Alphaduct Wire & Cable Co., New Brunswick, N. J.*

WIRE, Insulated Drop and Bronze or Copperweld — *Acorn Insulated Wire Co., Inc., 36 Freeman St., Pawtucket, R. I.*

STROMBERG-CARLSON

Transmitter

A DIVISION OF GENERAL DYNAMICS CORPORATION

News and views of Independent telephone people. VOLUME 7, NO 7 • OCTOBER 1958

"We'll ship 3,000 today . . ."

"No, you won't have to wait; we'll ship 3,000 folders today." It was Ray Weis, Assistant Advertising Manager, on the phone.

Orders like this for the T-3003, the new Stromberg-Carlson folder on phones in color, came in fast and early. So fast that, to keep pace with the demand for this new merchandising aid, the third large-run edition has just come off the high speed, full-color printing presses.

The way in which orders keep coming in means only one thing: Independent companies across the country are overwhelmingly in favor of using this new folder in every conceivable way to promote greater use of extension phones. The new folder has found its place in merchandising programs of operating companies of all sizes; from the smallest, one-owner company to one of the largest.

These companies are using both established methods and new ways effectively to promote installation of extensions. One of the more important uses for the T-3003 is as a monthly bill stuffer, a built-in salesman "talking" to a captive audience. Other uses are: at state fairs, county fairs, open-house celebrations, tied in with floor or wall displays, in conjunction with local Chamber of Commerce activities, or when a company's representative — installer or manager — makes a personal visit to a subscriber's home or office.

One company which promoted colored wall phones during an open house was the Meramec Telephone Company. When their Cuba, Missouri, exchange was cut over (see page 8 of this issue), they were ready with a peg board display featuring the telephones. The board can be changed easily to tie in with other promotions.

If you haven't as yet planned your campaign, prepare now by ordering T-3003's and building your promotion around this new merchandising aid from Stromberg-Carlson.

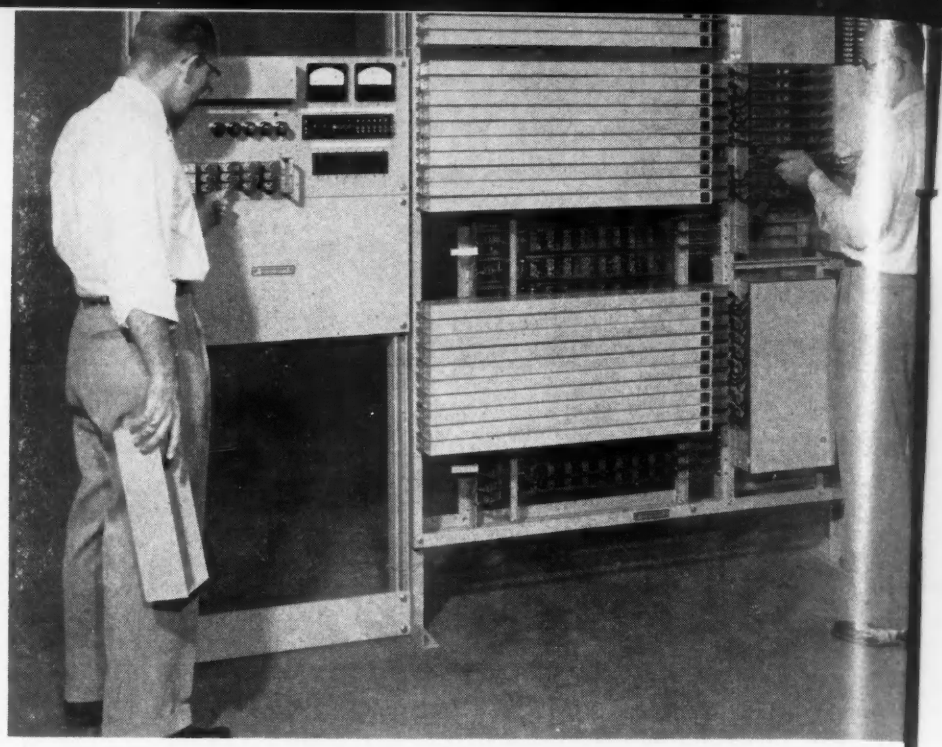
This charming lady graces the first page of folder T-3003. In a surprisingly short time, she has become "cover girl" to thousands of Independent Telephone people and their subscribers all over the country.

Cuba Times Photo

Meramec Telephone Company is proud of this attractive display at its Cuba, Missouri, exchange.

F-80 PBX

For our 49th State



Robert Rowlands, assistant foreman, left, and George Clark, foreman of assembly department, inspect F-80 XY PBX before shipment to Sitka, Alaska.

Statehood means progress, and with progress comes responsibility. That's the way Alaskans see it, and they are preparing for it.

The Sitka Telephone Company is keeping up with progress. They recently selected a Stromberg-Carlson F-80 PBX as the XY system which would best suit the needs of the new 55-million-dollar pulp mill in Sitka.

The F-80 XY PBX, "big brother" to the more familiar F-40 PBX, has all its operating features plus double the capacity: a maximum of 80 lines, 10 combination trunks, 4 information trunks and 14 connecting links. Equipment is mounted on a standard bay frame whose over-all dimensions, including equipment and power panel, are 6′ high, 7′ 4″ wide and 1′ 4″ deep. Power is supplied by 48 V DC batteries.

Among the many popular features included are: single party lines, restricted service, call distribution, night switching, transfer service, emergency operation, plus the optional conference service, code call and executive right-of-way.

As an attendant's cabinet, a cord-type switchboard with jack-ended trunks is provided with each F-80 system. The switchboard features an attractive veneered walnut cabinet with contrasting "sun-tanned" finished face panel; blends well with office surroundings.

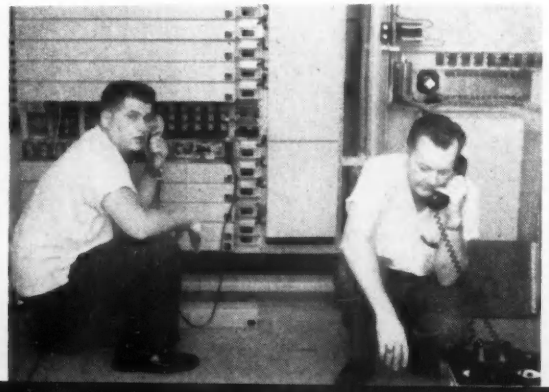
Karnak, Texas: An active exchange

Mrs. Velma Brown is manager of the active Karnak XY Dial exchange.

People come to Karnak, Texas, for different reasons: to enjoy the popular recreation area of Caddo Lake, the state park and the beautiful pine timber country, or for a business trip to the Thiokol Chemical Co., producer of solid propellent for rockets.

Whatever the reason, visitors and residents alike want and need reliable telephone service. Mrs. Velma Brown, owner and manager of the Karnak Telephone Company, is the person who is providing that service.

This small but active exchange recently cut over to XY Dial and invited area residents to visit the modern one-story building housing both equipment and business office. Thanks to Mrs. Brown's foresight, a pay station just outside the office and a night depository are always available for subscribers' convenience.



Al Hambric, Stromberg-Carlson installation foreman, left, and Cecil Young, Southwestern Bell Telephone Company, test lines before cutover.

You requested the 1576-W:

Basic 3-line service in a modern instrument

Operating companies may soon add the Stromberg-Carlson 1576-W telephone, the new 3-line telephone without the hold feature, to their offering in the commercial field. This basic version of the multi-line telephone gives operating companies another quality instrument with which to satisfy the requirements of certain business subscribers — those who want more than two trunk lines, but have no need for a hold feature.

Available soon, the 1576-W provides access to any of three trunk lines in a single high-quality instrument of modern design. To reduce the operating company's investment, Stromberg-Carlson has omitted the hold feature. A "500-type" instrument, the 1576-W is available in full choice of colors, plus black or office gray.

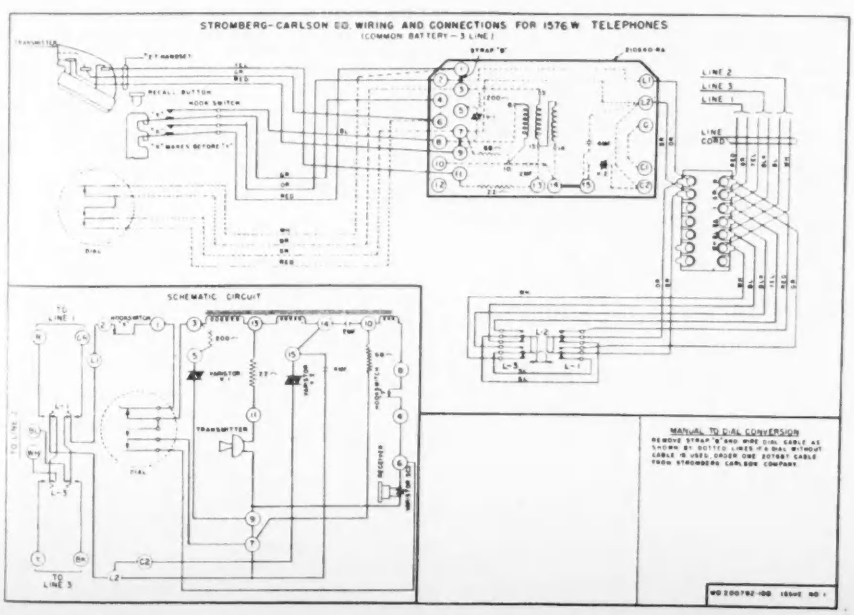
This versatile instrument may be arranged in several ways to meet each subscriber's requirements:

2 lines without hold feature
3 lines without hold feature
2 lines without hold feature — the third line strapped to a dial selective or manual intercom unit.

Installation of the 1576-W is just as quick and easy as installing the familiar Stromberg-Carlson 1573-W 2-line telephone. Ordering is easy too: order as you would any other Stromberg-Carlson telephone, specifying color and if with or without dial.

The 1576-W provides access to any of three trunk lines in one modern, high-quality instrument available in full choice of colors.

Has your Stromberg-Carlson Representative given you your copy of Bulletin T-2029 to aid you in selecting from the complete line of PBX Services by Stromberg-Carlson?


STROMBERG-CARLSON ED. WIRING AND CONNECTIONS FOR 1576-W TELEPHONES
(COMMON BATTERY — 3 LINE)
SCHEMATIC CIRCUIT
MANUAL TO DIAL CONVERSION

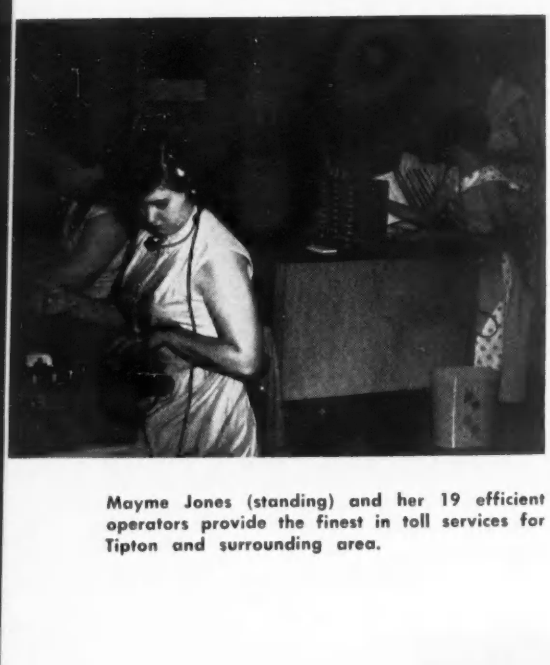
This versatile telephone may be installed quickly and easily — just like the familiar Stromberg-Carlson 2-line telephone.

Realized: Tipton, Indiana

Dreams:

In the making: Don Carlson shows plans of new modern dial office for Morenci, Michigan.

36 years ago Margaret Hoffman, chief operator, came to Morenci "so green she reported on St. Patrick's Day."



Mayme Jones (standing) and her 19 efficient operators provide the finest in toll services for Tipton and surrounding area.

Mr. and Mrs. George Shortle of Tipton, Indiana.

Pioneer Hybrid is a good name in seed; its business is good for Tipton. Heavy toll traffic through No. 120 PBX.

Postman's Holiday: 1958, No. 1

Good Luck began

Strange how certain memories stand out . . . little things.

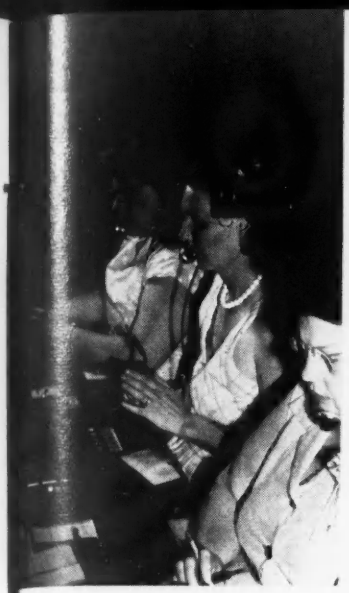
Such as making a pay-station call for a nickel. That was Sunday night, the week-end of the 4th of July. After agonizing delays, caught in the droning swarm of holiday traffic choking the road toward Cleveland, we had inched south to the Ohio Turnpike. Now to our dismay we discovered that we had sailed full-canvas past the exit where motel accommodations had been engaged.

The 5-cent call released our reservation to a weary couple leaning at that moment on the manager's desk. The other half of our "dime" found us lodgings without backtracking. And so the Postman's Holiday was off to a good start.

Fortune smiled with the morning sun, as the vagaries of time changes worked in our favor — allowed us to walk up the office stairs in company with Mr. D. K. Carlson, manager of the *Morenci* Home Telephone Company.

We had followed Don Carlson's new cable beginning right at the state-line pole. You can bet he put a lot of thought into system planning, for Morenci has experienced a 400% station gain since 1950! When his XY Dial exchange is completed next year, it will meet this challenge.

You never know where you'll meet Mr. Carlson. It could be anywhere in Michigan — he's been president of their Association since 1955. Or in St. Paris or Covington, Ohio — as manager of the West Ohio Telephone Company properties, or handling



As XY Dial comes to Morenci, this familiar scene will fade into memory.

Mrs. Otto Morris and Wade Morris of Fairmount. Fine dial service sparks town's real and sound progress.

with finding a nickel.

business matters with his mother, Mrs. Walter Carlson. Fortunately these Ohio exchanges are XY Dial, so he is free to spend most of his time in Morenci — pushing the dial program or perhaps sitting with the City Council. His enthusiasm must be catching, as son David (7) already wants to be a telephone man.

The Indiana countryside was lush as we took aim for *Fairmount* . . . just out of ear-shot of the trunk highway. This town leaves bustle to those who like it; they have what they need, including top-grade dial service planned by Mr. Otto Morris and completed by his widow and his son, Wade.

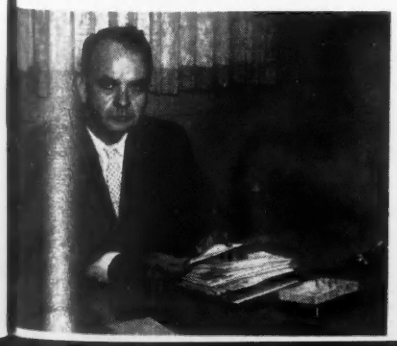
Fairmount was settled by Friends — still is "friendly." Center of a rich farming area, it welcomes a large summer colony at the Methodist encampment. The C. and O. Railroad may have misunderstood this welcome when most of its trackage disappeared in a sink-hole near Lake Gallatia, but they did build through to tap the town's resources. And just to make life easier in winter, the telephone service area turns its narrow side to the "sleet front."

Wade Morris, trained during high school by his father, worked a hitch in industry at nearby Marion before Army induction; ten years ago he returned to help modernize the telephone company. What he and his mother have accomplished is more typical than spectacular, but Fairmount is a better town because they work there.

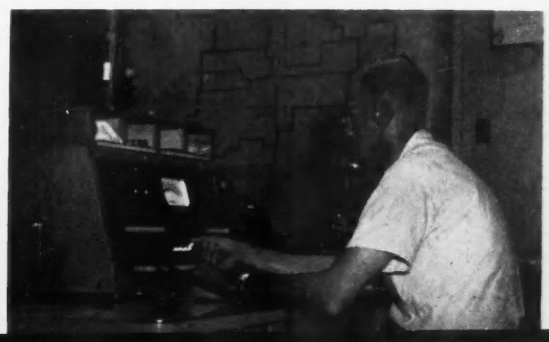
At *Tipton* they also shrug off sleet — for a different reason. The conversion of this strikingly beautiful XY Dial office and toll center was carefully timed; invitations mailed. Then came the ice! Children could skate safely on main thoroughfares . . . there were no cars. Friends who *could* phone sent regrets. About the only ones *not* worrying were George Shortle, president; Don Hiatt, plant engineer; and Clifford Cook, plant superintendent. They knew that almost the entire system was safely underground.

Mr. Shortle had "inherited" this cable plant from previous management; on this foundation he inaugurated the dial program and built the fine exchange which serves the city so well, and provides toll and information service to smaller towns on the perimeter. George Shortle — banker turned telephone man — acquired some of his forward thinking at Harvard Business School, where he also was a member of the Navy Supply Command. His older son — now at Purdue — will supplement this business know-how with technical skills. Tipton is fortunate in the team that operates its telephone company.

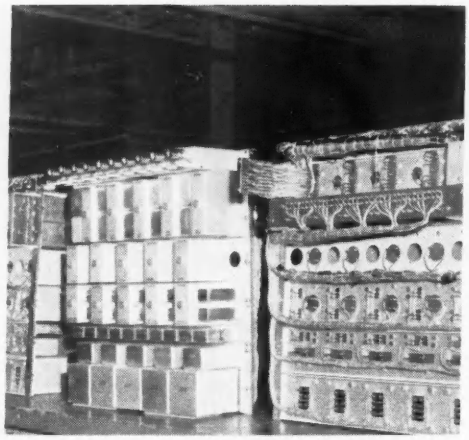
Luck was with us at noon as we reached Indianapolis via its beautiful northern approach. A tire, which could have blown at high speed, miles from a telephone, expressed its determination to die right in the center of the city. To our right was a service station; to our left a cafeteria. Half an hour later we were on the now-familiar Route 40 heading toward *Casey, Illinois*, where we pick up our story next month.



Team captain George Shortle (left) and a ball-carrying quarterback, Clifford Cook (at right). Map on wall shows area served by Tipton's 1500-line XY Dial office.



Achieve Toll Grade Transmission with the 551 Hybrid Repeater



Part of one order for 551 Repeaters ready for crating. View shows both component and wiring sides.

Quality transmission ranks with speed and dependability as a principal component of good telephone service. Among the several methods for improving transmission, repeater accessory equipment is often the most practical solution.

Stromberg-Carlson offers two types of repeater equipment: the 541 Negative Impedance Repeater (previously described in these pages) and the 551 Hybrid Repeater. Each has its own capabilities and application, although often — as in the modernization program for the Farmer's Mutual Telephone System of Edinburg, Virginia, whose progress is reported on the facing page — a combination of the two types of repeaters provides the required gains with greatest efficiency.

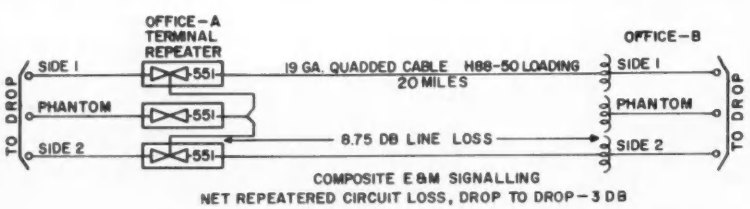
Essentially the 551 Hybrid Type Repeater is for use on toll and interoffice trunks, providing a big "boost" on such circuits showing a high transmission loss. This repeater will operate over "mixed" facilities, including open wire; it permits centralization of repeatering equipment in one location, with a consequent saving in man-hours. 551 Repeaters may be used on Side or Phantom circuits, for Terminal or Through operation.

The Farmer's Mutual Telephone Company, like so many other companies adopting the 551 Repeaters for improving transmission on toll circuits, was strongly influenced by:

1) the proved economy of repeaters, in cost per db, over the alternate method of using larger conductors;
2) the speed of installation and flexibility of the equipment, both in immediate application and for future requirements.

This is largely because a 551 installation is "tailored" to the individual job; a careful choice is made from standard components so that overall circuit gain will meet predetermined requirements in the most efficient manner.

A new bulletin is available detailing the characteristics and application of 551 Repeaters. Ask your Stromberg-Carlson sales representative for T-2016.



Sketch of typical facility where 551 Repeaters are providing required transmission gains.

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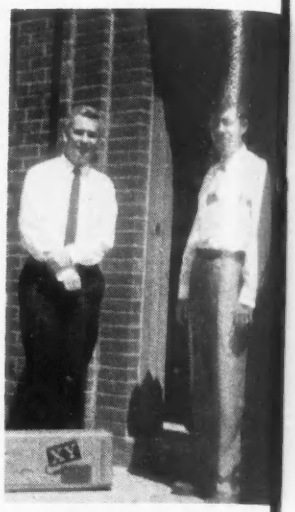


Warren French, Jr., (right) manager of Farmer's Mutual Telephone System, with Dave McNish, Stromberg-Carlson sales representative in Virginia.

Nature chose Virginia's Shenandoah Valley as a place to concentrate her gifts . . . genial climate, fruitful soil, dramatic scenery. None of this has changed.

As a growing population surged westward over the mountains into the Valley, a chain of towns prospered the length of the mid-vale. What is now U. S. Route 11 — one-time gateway to the West, now crowded with commerce and teeming with tourists — is the artery providing transportation for this entire section. The equally important telephone communications uniting the valley towns in Shenandoah County are provided by the Farmer's Mutual Tele-

New
manu
fine

bichange is underway in the Shenandoah Valley

Year-round attraction. Several huge caves, each having fantastically unique features, draw thousands of interested tourists to the area.

Ambitious plans need skilled men to carry them out. Fred Crisman, CO-man, recently graduated from XY Training School; now back for final stages of program.

phone System, founded in Edinburg in 1902. Here, under the leadership of Mr. Warren French, Jr., there *is* a big change underway.

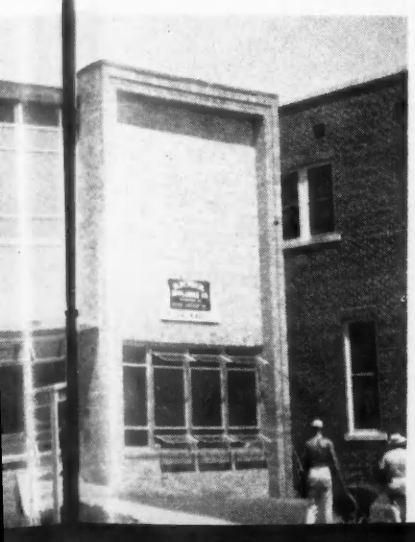
From Strasburg on the north — producing the incomparable apples for which the valley is noted — to Newmarket, located midway between Endless and Shenandoah Caverns, and in the four other towns en route, Mr. French is building an entirely new telephone plant. XY Dial exchanges in Edinburg, company headquarters and toll center, New Market and Mt. Jackson are ready; others at Woodstock, Tom's Brook and Strasburg are about completed as this is written. Dial service will be introduced progressively according to an orderly plan starting November 2. Watch these pages for the further story to come.

With the ambitious and well-conceived program nearing completion, frequent visitors from Washington and surrounding cities have given high praise to the project. The Shenandoah Valley will soon be an even better place to visit, to work, to live.

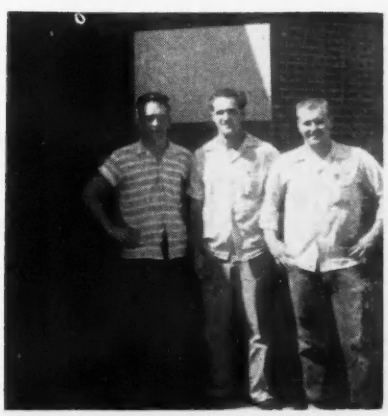
New industries, like this metal boat manufacturer, need and appreciate the fine telephone service now provided.

Gracious living is characteristic of Valley planters; fine homes remain in family for many generations.

Looks like an Army barracks at first glance! One of many large turkey farms near Mt. Jackson.



Fine building for a big job. Headquarters for dial exchange and toll center at Edinburg, Virginia.



Their job most done, Stromberg-Carlson installers J. C. Thompson, Bill Anderson, G. W. Ross. Installation foreman is Lloyd Camp.

Alabama Telephone Company:
14 exchanges serving 5 counties

The Alabama Telephone Company has a group of men studying Telephony through a plan under the G. I. Bill of Rights.

Like a Japanese fan, revealing its full beauty only as it is opened, each new exchange cut over to dial makes the entire 14-exchange network of the Alabama Telephone Company even more effective in serving the five-county area in western Alabama.

From Fayette, headquarters and one of the company's latest exchanges to be converted to XY Dial, service extends like a fan, bringing to more subscribers the advantages of dial service.

With Stromberg-Carlson equipment, new central office buildings and outside plant, the company, through the efforts of Mr. H. W. Vaughan, president, and Mr. W. J. Holladay, general manager, has completely rebuilt its offices.

Commercial office personnel during cutover at Fayette.

Mr. W. J. Holladay is general manager of the company.

Cuba and St. James, Missouri, now both dial

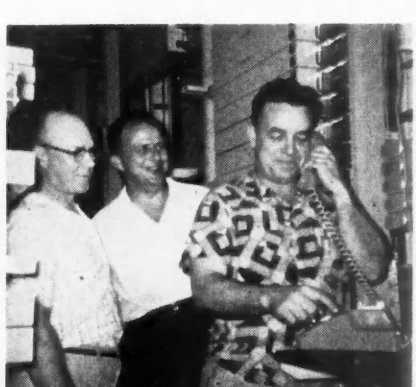
Mel Matlock (above) helps his Dad by inspecting power board. This photo courtesy of The Cuba Times. To the right, Melvin Matlock and Jack Bartruff of the Meramec Telephone Company get help during cutover from Marion Bartruff, right, Jack's brother and manager of the Bland (Mo.) Telephone Company.

As you drive Southwest out of St. Louis, on U. S. 66, it doesn't take you long to reach Cuba, Missouri, an exchange of the Meramec Telephone Company. St. James, sister exchange and company headquarters, is just a bit further down the road.

St. James has been dial for some time, but is still easily adding lines to the original XY Dial equipment, visible evidence of growth in demand for telephone service in this area.

Cuba was more recently converted to dial. Along with the improvement in service, a new office and exchange building has taken its place in the community.

Credit for the installation at Cuba goes to Melvin T. Matlock, plant superintendent, and Jack E. Bartruff, manager, who are making sure all rural and urban telephone needs are fulfilled.



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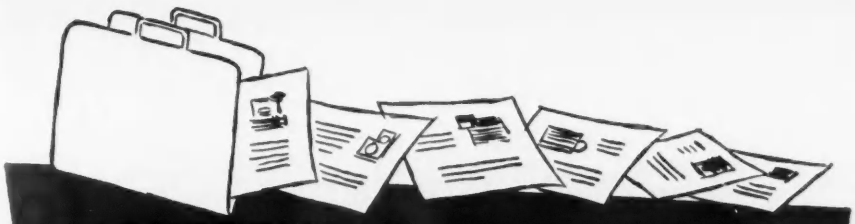

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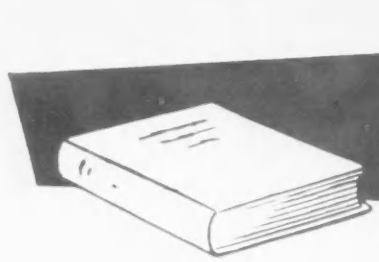

THE BACK OF THE BOOK

By JOHN G. REYNOLDS

"Holla" — "Allo" — "Hanji"

ACCORDING to "*Telephone Review*," employe magazine published by New York Tel. Co., the most common telephone expression — "hello" comes from an Old High German word, "holla," a cry for calling a dog or horse. Most people's reaction to a jangling phone is almost as automatic as breathing, yet the commonplace words still say much about the culture, traditions and character of both the man who calls and the man who is called. The direct Britons' efficient exchange of identification is the announcement, "Baker here," and the reply, "Bond, here."

The French pick up the receiver and speak with a Gallic "Allo!" to begin a conversation. Since gestures cannot be transmitted over the phone, the demonstrative Italians make up for it in wordage. "Telefonista. mi metta in communicazione con il signor Verdi," an Italian may say. All he means is "Operator, get Mr. Verdi."

"*Telephone Review*" reports the Spanish-speaking people probably have more variations in telephone expressions than any other. When your phone rings in Madrid, you may reply politely, "Hola!," for "Who is speaking?" If you call a man in Spain and the maid answers: "Esta en la calle. (He's in the street.)" Don't jump to the conclusion that your party has fallen in the gutter. The maid simply means, "He's out."

Scores of countries use some variation of "hello." India uses "Hanji (Greetings)": the Japanese open their conversation with a lilting "Moshi Moshi," which has no precise meaning but is just a way to get attention. Afghanistan and Iran like "Baleh," for "Yes" and in Swahili it's a hearty "Yambo."

Wherever you are, when in doubt, say "hello" — as one American diplomat once learned, to his regret. On State Department duty one quiet Sunday, the phone rang and thinking it was some friend, said cheerfully, "It's your nickel." The caller was Franklin D. Roosevelt.

"Sun Powered Message"

THE FIRST reported long-distance radio message via a sun-powered transmitter was received in Chicago last month. It came from Major Gilbert, senior electronics engineer at Hoffman Electronics Corp., Burbank, Calif., to Henry A. Kusek, 5401 S. New England. Both are ham radio operators.

Gilbert said his set, utilizing a power output of only 75 milowatts, got its energy from a bank of 72 half-dollar-size solar cells, the same type used in the Vanguard satellite and manufactured by his company. They cost about $4 each and, Gilbert says, could last 500 to 1,000 years.

His transmitter used transistors instead of regular tubes, thus requiring much less input. The solar cells, usually made with silicon wafers, convert sunlight directly into electrical energy.

Sticking To The Facts

WE WERE impressed by a recent news story in one of our local papers. Obviously written by a reporter with a passion for stark unadorned statistics, it started off this way:

"*A guilty verdict ended the 15-day trial of the 37-year-old Texas pipefitter who has been married six times. His 34-year-old bride of three months drowned in San Carlos Lake on Nov. 8 after plunging 250 feet in a 1953 Sedan from a lookout point on Highway 70.*"

There you have it. The complete story. No adjectives, no persiflage, no redundancy. Unpoetic and unemotional, yes, but all anyone needed to know about said incident.

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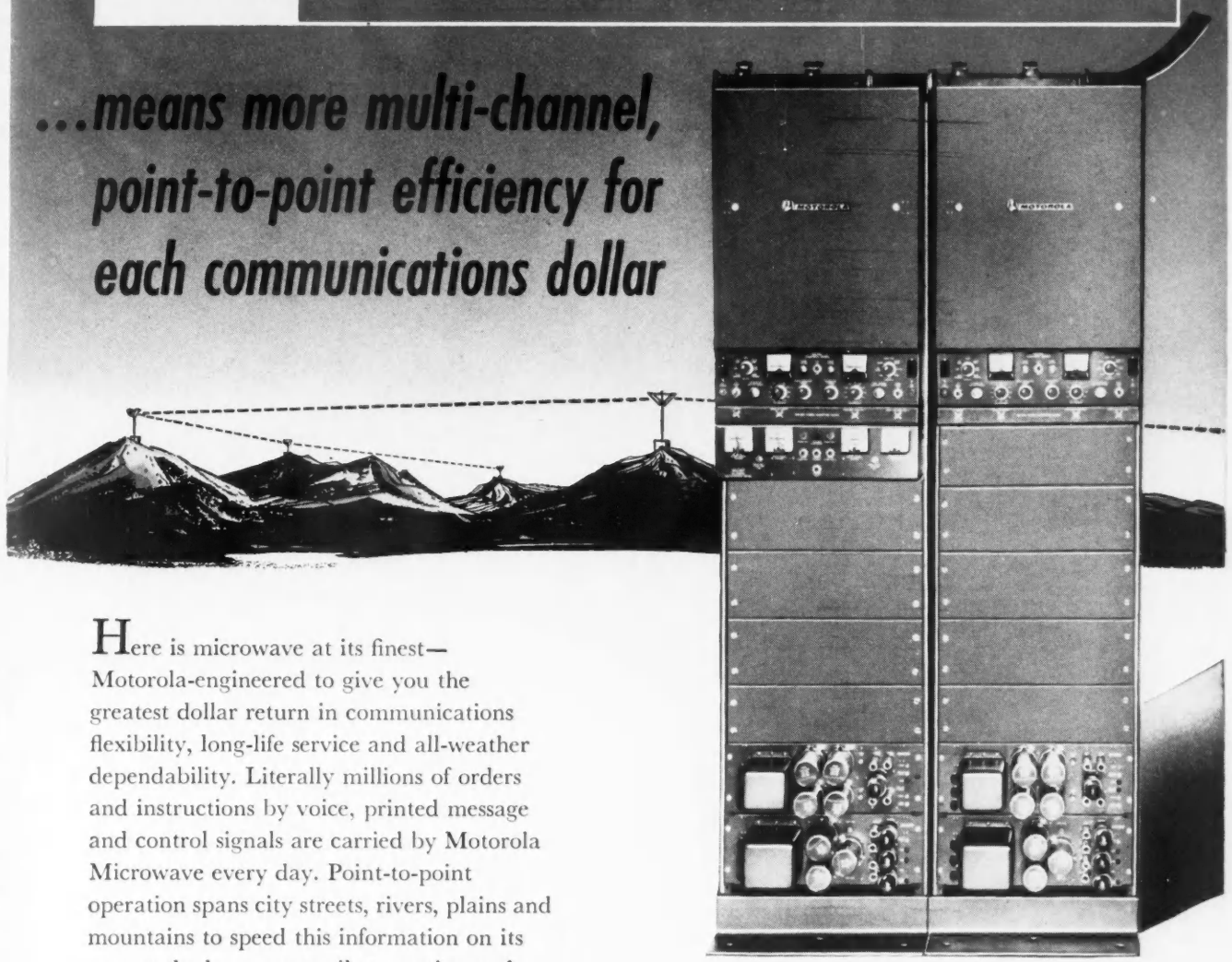

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